NYJ 002 325 074

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NAC Northeastern Analytical Corp.

CA88- December 30, 1988

Lenox China
Lenox Technical Center
65 Fire Road
Absecon, New Jersey 08201

Attention: Mr. William Simmons

Reference: Test Report No. NAC10877

This test report covers the analysis of one (1) degreaser sludge sample submitted to Northeastern Analytical Corporation (NAC) on December 6, 1988. The following analyses were performed:

- Volatile Organics
- pH

The report is organized as follows:

- Methodology
- Analytical Results
- Quality Assurance Data

If you have any questions concerning the analysis, please do not hesitate to contact your account representative.

Respectfully submitted,

Northeastern Analytical Corp.

John Rissel
Laboratory Manager

cj
File: 9L\TEST\NAC10877

651230

I. METHODOLOGY

- EPA Method 601 - Purgeable Halocarbons, Federal Register, Vol. 49, No. 209, October, 1984.
- EPA Method 602 - Purgeable Aromatics, Federal Register, Vol. 49, No. 209, October, 1984.
- Standard Methods for the Examination of Water and Wastewater, 15th and/or 16th Edition.

II. ANALYTICAL RESULTS

. Volatile Organics

Parameter	Sample Designation NAC10877 Degreaser Sludge	Detection Limit
Chloromethane	ND	5.0
Bromomethane	ND	5.0
Vinyl Chloride	ND	5.0
Chloroethane	ND	5.0
Methylene Chloride	ND	5.0
Trichlorofluoromethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,1-Dichloroethane	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Chloroform	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
Carbon Tetrachloride	ND	5.0
Bromodichloromethane	ND	5.0
1,2-Dichloropropane	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
Trichloroethene	43,000	5.0
Dibromochloromethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
2-Chloroethylvinyl Ether	ND	5.0
Bromoform	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
Tetrachloroethene	ND	5.0
Chlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
Benzene	ND	5.0
Toluene	ND	5.0
Ethylbenzene	ND	5.0
Units	(mg/kg)	(mg/kg)

ND: Not Detected

II. ANALYTICAL RESULTS (Continued)

- pH

Parameter	Sample Designation NAC10877 Degrease Sludge
pH	2.1

III. QUALITY ASSURANCE DATA

- Volatile Organic Surrogate Recoveries

	% Recovery	
Sample Designation	1-chloro-2-bromopropane	a,a,a-trifluorotoluene
NAC10877	*	95

* Due to matrix interference in the sample, the surrogate spike for this analysis was not recovered. However, the control samples demonstrated acceptable recovery.

7E

MJ 002 325 074

@A93 -01/08/93

LENOX
TECHNICAL CENTER
65 FIRE ROAD
P.O. BOX 373
ABSECON, NEW JERSEY 08201

****** IMPORTANT DOCUMENT ******

PLEASE DELIVER THE FOLLOWING MESSAGE TRANSMISSION TO:

NAME: ANDREW PARK, USEPA/DARYL CLARK, NJDEP

FROM: JOHN KINKELA

NUMBER OF PAGES (NOT INCLUDING THIS COVER) 15

PLEASE CALL (609) 484-9798 IF TRANSMISSION IS RECEIVED INCOMPLETE OR NOT LEGIBLE. PLEASE DO THIS AS SOON AS TRANSMISSION IS COMPLETE. ALSO CALL IF FOR SOME REASON TRANSMISSION STOPS DUE TO TECHNICAL PROBLEMS.

OUR "FAX" MACHINE IS AUTOMATIC AND IS CONNECTED TO ITS OWN PHONE. THE CONTACT NUMBER FOR THE LENOX TECHNICAL CENTER "FAX" IS:

(609) 484-9520

THANK YOU FOR YOUR COOPERATION.

NOTE: IMMEDIATE ATTENTION PLEASE

POLISHING BASIN SLUDGE SAMPLING PLAN, AMMENDED TO INCLUDE QA/QC, AS REQUESTED.

LENOX CHINA
POMONA, NEW JERSEY

POLISHING BASIN SLUDGE SAMPLING PLAN (REVISED)

LENOX CHINA
POMONA, NEW JERSEY

PROJECT #530-1
DECEMBER 1992

EDER ASSOCIATES
CONSULTING ENGINEERS, P.C.
Locust Valley, New York
Madison, Wisconsin
Ann Arbor, Michigan
Augusta, Georgia
Jacksonville, Florida
Trenton, New Jersey

TG2529

123092

POLISHING BASIN
SLUDGE SAMPLING PLAN

Introduction

The polishing basin (also called the polishing lagoon) is one of twelve solid waste management units that was identified by USEPA personnel during a RCRA Facility Assessment (RFA) of the Lenox site located in Pomona, New Jersey.

A location map of the Lenox facility is provided in Figure 1. A site plan of the Lenox site is provided in Figure 2 which shows the location of the polishing basin with respect to other site structures and features.

Sludge Sampling Plan

The overall objective of the sampling and analysis plan is to establish whether or not the polishing basin sludge is TCLP hazardous so that it can be disposed of accordingly.

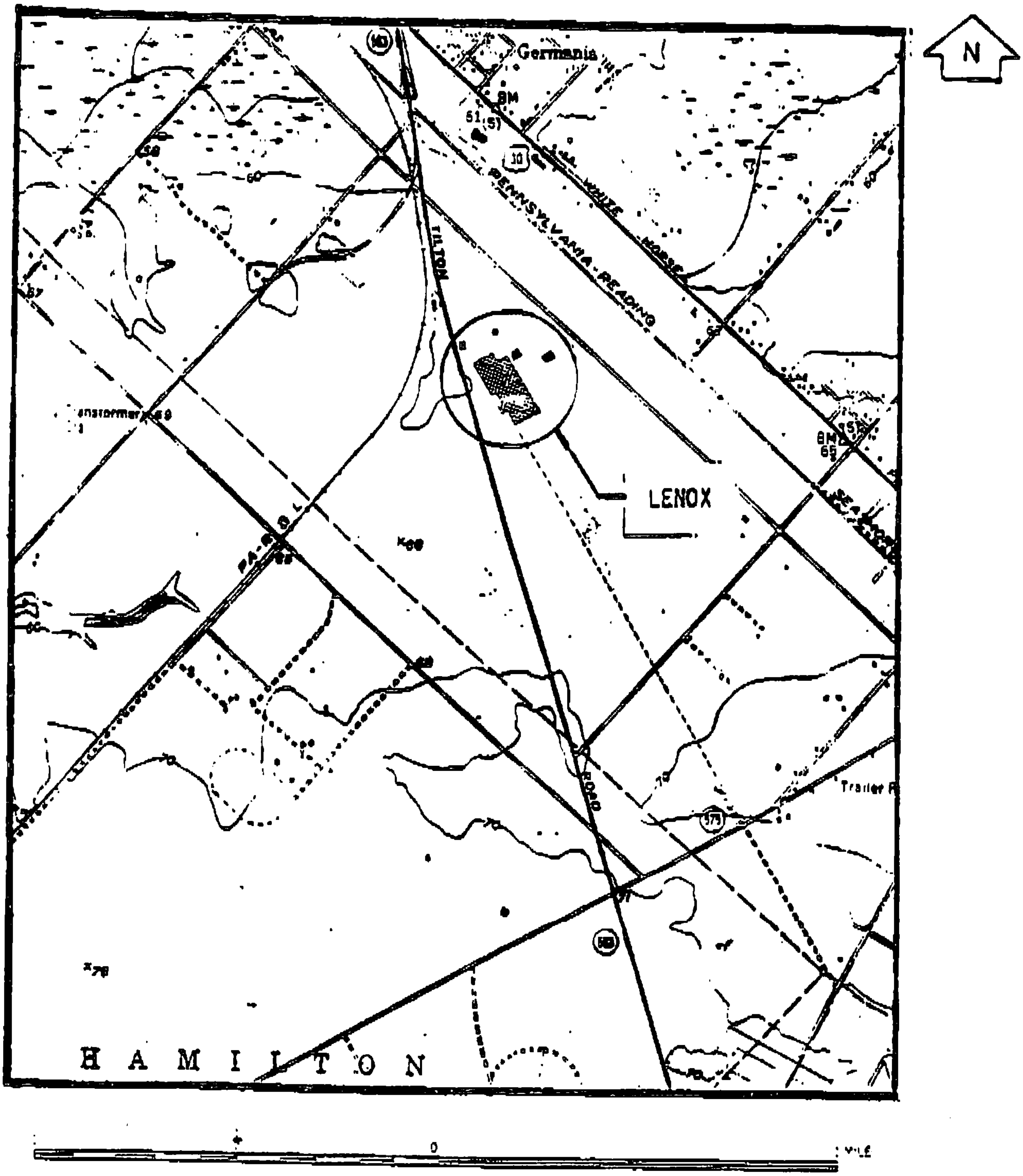
The sampling and QA/QC plans are provided in Appendix A. The health and safety plan is provided in Appendix B.

associates consulting engineers, p.c.

FIGURE 1

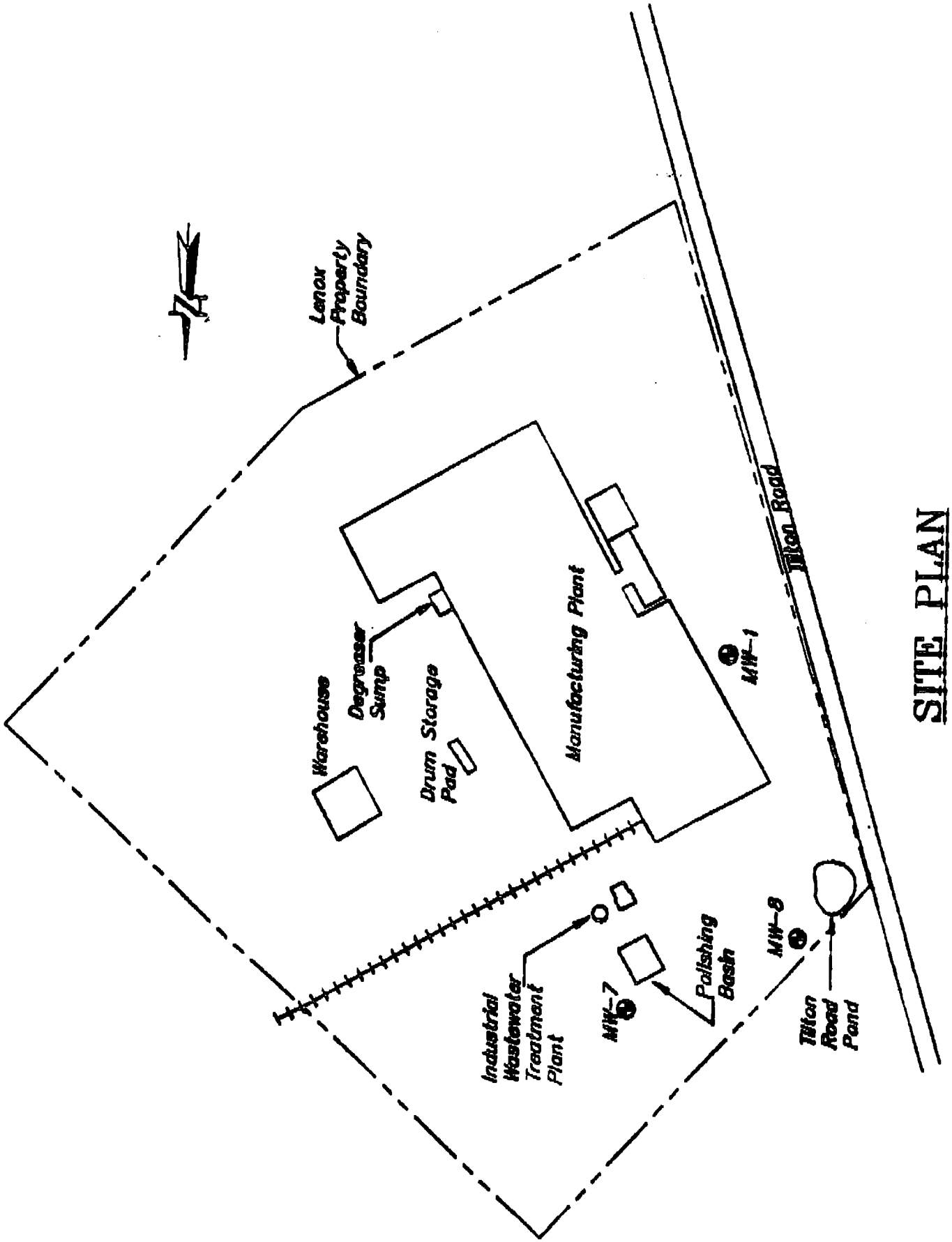
LENOX CHINA
POMONA, NEW JERSEY

USGS 7.5 Minute Series
Pleasantville Quadrangle
Atlantic Co. - NJ



LOCATION MAP

FIGURE 2



SITE PLAN

LENOX CHINA
POMONA, NEW JERSEY

SK530-1E
010892

APPENDIX A

eder associates consulting engineers, p.c.

POLISHING BASIN
SLUDGE SAMPLING PLAN

1. Technician will comply with Health and Safety Plan (HASP) requirements during sludge sampling activities.

2. A backhoe will trench through the sludge down at least three feet without reaching native soil. A sample of sludge (one shovel full) will be taken from the backhoe bucket on every pass of the backhoe. Samples will be taken from at least 7 locations within the sludge mound, placed on polyethylene sheeting and mixed.

3. A composite sample of the mixed sludge will be collected and analyzed for TCLP metals and volatile compounds.

eder associates consulting engineers, p.c.

POLISHING BASIN
QA/QC PLAN

1. All samples will be analyzed by a New Jersey approved laboratory: NORTHEAST ANALYTICAL CORPORATION, MARLTON, N.J., NEW JERSEY LABORATORY CERTIFICATION NUMBER 03117.
2. Samples will be placed into precleaned sample containers supplied by the laboratory.
3. Immediately after collection, the samples will be cooled to 4°C in an ice-filled cooler. The samples will be stored at 4°C until they are received by the laboratory.
4. A chain-of-custody form will be completed to provide a written record to trace the possession and handling of the samples from the time they are collected through sample analysis and data reporting.
5. Due to the limited scope of this work, field blanks and duplicate samples will not be collected.

APPENDIX B

SHORT FORM
HEALTH AND SAFETY PLAN
EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

NOTICE: This HASP applies to EA personnel where Eder Associates operations at the site involve employee exposure or the reasonable possibility of employee exposure to safety or health hazards.

This HASP describes emergency response procedures and actual and potential physical and chemical hazards at the worksite that have been identified by Eder Associates. This HASP is also intended as information and guidance to contractors retained by EA and to other parties who are outside of EA's ability to control.

Notwithstanding the intent of this Health and Safety Plan as site specific hazard information and guidance, EA's contractors are retained as independent contractors and are responsible for assuring the worksite safety of all of their employees and any other party retained by contractor. This HASP is made available to all parties, however, EA has no control over the actions of any other party and all parties enter the worksite with this understanding.

EA may require that its personnel take certain safety related precautions in accord with this HASP and EA requests that others protect their personnel in a manner that they deem necessary or sufficient.

APPROVAL DATE: _____

OFFICE: New York

PROJECT NAME: Lenox China
CITY/STATE : Pomona, New Jersey
TOWNSHIP : Galloway

PROJECT # #530-1
CLIENT CONTACT John Bysura
CLIENT PHONE # (609) 484-9797
SITE PHONE # _____

PROJECT MANAGER: Rick Inyard
FIELD LEADER : Jim Barish

SITE BACKGROUND: The Polishing Basin received treated effluent from an on-site industrial wastewater treatment plant. Contaminants of concern associated with the basin sludge include lead and zinc.

SIZE OF SITE: 56 acres
LOCATION: URBAN/RESIDENTIAL ___ COMMERCIAL ___ INDUSTRIAL X RURAL X

POTENTIAL SITE HAZARDS: SLIP/TRIP/FALL X CHEMICAL X HEAT STRESS X
COLD STRESS ___ OPEN PITS/LAGOONS X RADIATION ___
OVERHEAD UTILITIES 12 KV CONFINED SPACES ___
FLAMMABLE ATMOSPHERES ___ MACHINERY X
WORK AROUND DRILL RIGS X ASBESTOS ___
BURIED UTILITIES ___ FLOOR OPENINGS ___ LADDERS ___
POISONOUS PLANTS ___ GAS CYLINDERS ___
OTHERS _____

NOTE: List is not inclusive of all hazards which may be encountered.

ACTIVITIES TO BE PERFORMED BY EDER PERSONNEL:

SOIL SAMPLING X WELL SAMPLING ___
LAGOON/POND SAMPLING ___ TANK SAMPLING ___
DRUM SAMPLING ___ ASBESTOS SAMPLING ___
OVERSIGHT OF DRILL CREW X
ON SITE MEETING ___ SITE TOUR ___
AIR MONITORING ___
OTHER _____

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRES A SAFETY PLAN AMENDMENT

NAME OF SUBCONTRACTOR:

Absecon Motor Works/Pruchnicki

ACTIVITIES TO BE PERFORMED BY SUBCONTRACTOR:

SAMPLING/TYPE X / Soil
SURVEY WORK ___ EXCAVATION X SOIL LOADING FOR TRANSPORT X WELL INSTALLATION ___ TANK EXCAVATION ___ DRUM STAGING ___
AIR MONITORING ___ ON SITE MEETING ___
TEST PIT EXCAVATION ___
OTHER _____

NAME OF SUBCONTRACTOR:

_____

ACTIVITIES TO BE PERFORMED BY SUBCONTRACTOR:

SAMPLING/TYPE ___/_____
SURVEY WORK ___ EXCAVATION ___ SOIL LOADING
FOR TRANSPORT ___ WELL INSTALLATION ___ TANK
EXCAVATION ___ DRUM STAGING ___
AIR MONITORING ___ ON SITE MEETING ___
TEST PIT EXCAVATION ___
OTHER _____

LEVELS OF PROTECTION:

The following designated items will be the minimum protection required while i the exclusion zone. Specific activities may require modification to this list.

ANTICIPATED LEVEL OF PROTECTION: B ___ C ___ D X
WHY: TLVs for contaminants of concern not expected to be exceeded.

LEVEL B WILL INCLUDE: (Check all that apply)

TYVEK: Saranex ___ Poly Laminated ___ Paper ___
GLOVES: Surgical Liners ___ Nitrile ___ Silver Shields ___ Butyl ___
BOOTS: Steel Toe Leather ___ Latex Overboot ___ Robars ___ Other ___
SUPPLIED AIR: SCBA ___ Airlines ___
HARDHATS: ___ EAR PLUGS: ___
SPLASH APRON: Acid ___ Other/Type: ___/_____
OTHER EQUIPMENT: Flash Lights ___ Radios ___ Life Jacket ___ Car Phone ___

ACTIVITIES TO BE PERFORMED IN LEVEL B: (Please List)

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRES A SAFETY PLAN AMENDMENT

LEVEL C WILL INCLUDE: (Check all that apply)

TYVEK: Saranex ___ Poly Laminated ___ Paper ___
GLOVES: Surgical Liners ___ Nitrile ___ Silver Shields ___ Butyl ___
BOOTS: Steel Toe Leather ___ Latex Overboot ___ Robars ___ Other ___
HARDHATS: ___ EAR PLUGS: ___
FULL FACE RESPIRATOR: Positive Pressure ___ Negative Pressure ___
CARTRIDGES: GMC-H ___ Other: _____ ESCAPE PACK: ___
OTHER EQUIPMENT: Flash Lights ___ Radios ___ Life Jacket ___ Car Phone ___

ACTIVITIES TO BE PERFORMED IN LEVEL C: (Please List)

LEVEL D WILL INCLUDE: (Check all that apply)

COVERALL: X
GLOVES: Surgical Liners ___ Nitrile X Cotton ___
BOOTS: Steel Toe Leather X Latex Overboot X Robars ___
HARDHAT: X SAFETY GLASSES: ___ EAR PLUGS: X
OTHER EQUIPMENT: Flash Lights ___ Radios ___ Life Jacket ___ Car Phone ___

ACTIVITIES TO BE PERFORMED IN LEVEL D: (Please List)

Excavate basin sludge and place in containers. Sample basin floor and side wall soil. Fill and grade basin (based on post closure laboratory analyses)

AIR MONITORING: (Check all that apply)

___ OVA
___ HNU/PROBE
___ RADIATION METER
___ CGI
___ PHOTOVAC TIP
___ GILLIAN PUMPS
___ DRAGER TUBES
___ MONITOR UNIT
___ HI-VOL
___ OTHER/TYPE

MEDICAL EMERGENCY INFORMATION:

HOSPITAL: Atlantic City Medical Center
ADDRESS: Jimmie Leeds Road
Pomona, New Jersey (Attach map with directions)
TELEPHONE (609) 652-3450
DOES HOSPITAL HAVE CHEMICAL EXPOSURE CAPABILITIES? YES X NO ___
FIRE DEPARTMENT (609) 965-1000
POLICE TELEPHONE (609) 934-1200
AMBULANCE (609) 962-1200

FIRST AID KIT AVAILABLE AT (give on-site location) Polishing basin work area
EYE WASH STATION AVAILABLE AT (give on-site location) Lenox production plant

EDER ASSOCIATES TELEPHONE NO. (516) 671-8440 New York Office
(313) 663-2144 Michigan Office
(608) 836-1500 Wisconsin Office

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRES A SAFETY PLAN AMENDMENT

I have read and I understand the safety guidelines presented in this plan, including the notice on page 1 of this plan. I further understand that each contractor performing work on this site is responsible for the health and safety of its personnel.

CONTRACTOR'S FIELD SUPERVISOR

ADOPTED BY _____ REPRESENTING _____

ADOPTED BY _____ REPRESENTING _____

ADOPTED BY _____ REPRESENTING _____

CLIENT/REGULATORS VISITING SITE

NAME	REPRESENTING

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRE A SAFETY PLAN AMENDMENT

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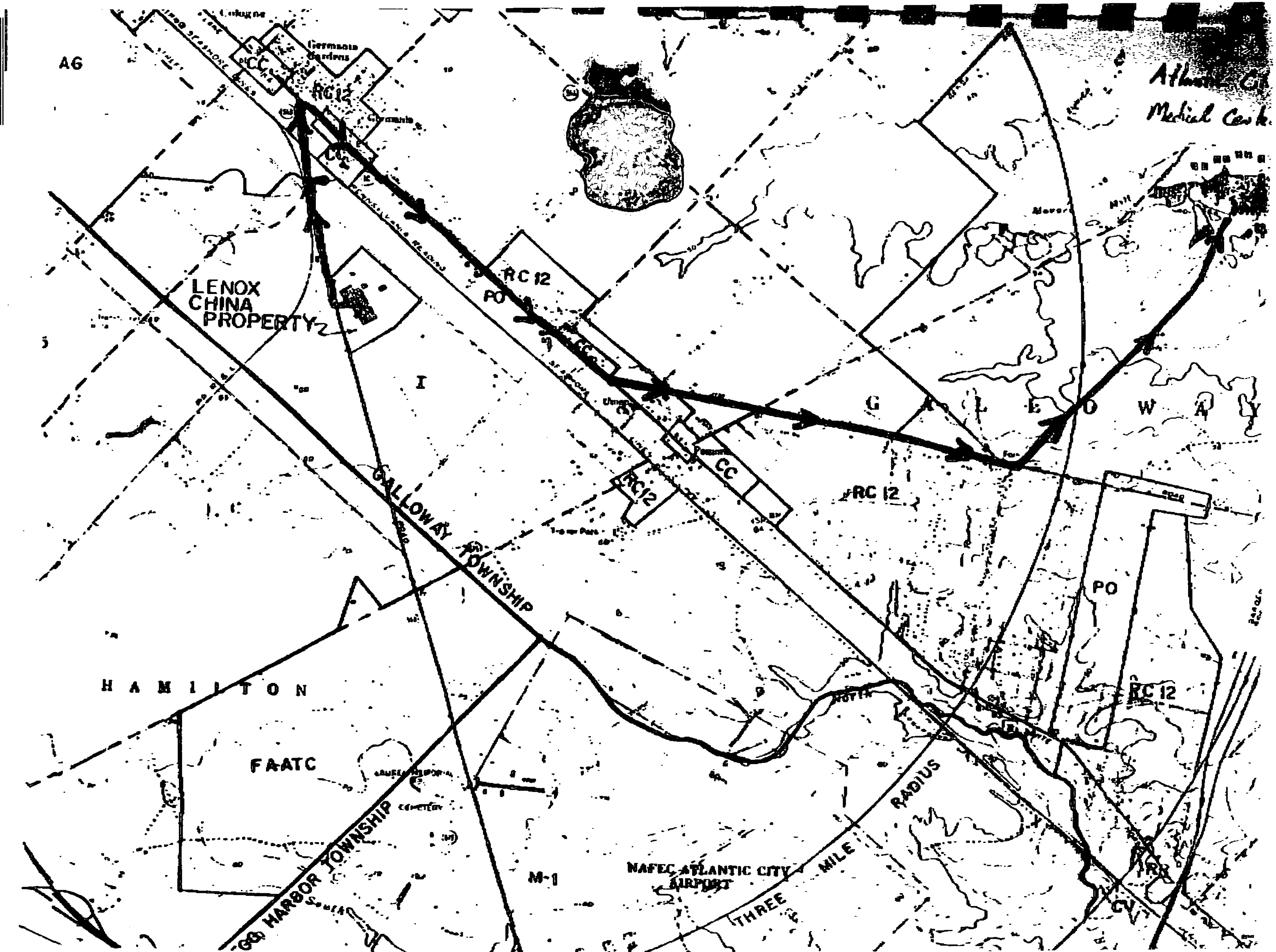
AG
LENOX CHINA PROPERTY
RC 12
CC
PO
I
GALLOWAY TOWNSHIP
G A L L O W A Y
HAMILTON
FAATC
HARBOR TOWNSHIP
M-1
NAFEC ATLANTIC CITY AIRPORT
THREE MILE RADIUS
Germania

LENOX CHINA
POMONA, NEW JERSEY

7E

POLISHING BASIN SLUDGE SAMPLING PLAN (REVISED)

LENOX CHINA
POMONA, NEW JERSEY

PROJECT #530-1

EDER ASSOCIATES
CONSULTING ENGINEERS, P.C.
Locust Valley, New York
Madison, Wisconsin
Ann Arbor, Michigan
Augusta, Georgia
Jacksonville, Florida
Trenton, New Jersey

eder associates
consulting engineers, p. c.

OFFICES:
Locust Valley, NY
Madison, WI
Ann Arbor, MI
Augusta, GA

January 11, 1993
File #530-1

Mr. Andrew Park
United States Environmental
Protection Agency
Air and Waste Management Division
Hazardous Waste Facilities Branch
Region II
26 Federal Plaza
New York, New York 10278

Re: Lenox China
Pomona, New Jersey

Dear Mr. Park:

Enclosed is Eder Associates Revised Polishing Basin Sludge Sampling Plan for the above referenced facility. This plan is being submitted at the request of John Kinkela, Director of Environmental Engineering, Lenox China.

Please call me if you have any questions.

Very truly yours,

EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

Frederick H. Inyard, P.E.

FHI/llv
Encl.

cc: D. Clarke, NJDEPE
J. Kinkela

LLV2886

480 FOREST AVENUE, LOCUST VALLEY, NEW YORK 11560 • (516) 671-8440 • FAX (516) 671-3349

POLISHING BASIN
SLUDGE SAMPLING PLAN

Introduction

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USGS 7.5 Minute Series
Pleasantville Quadrangle
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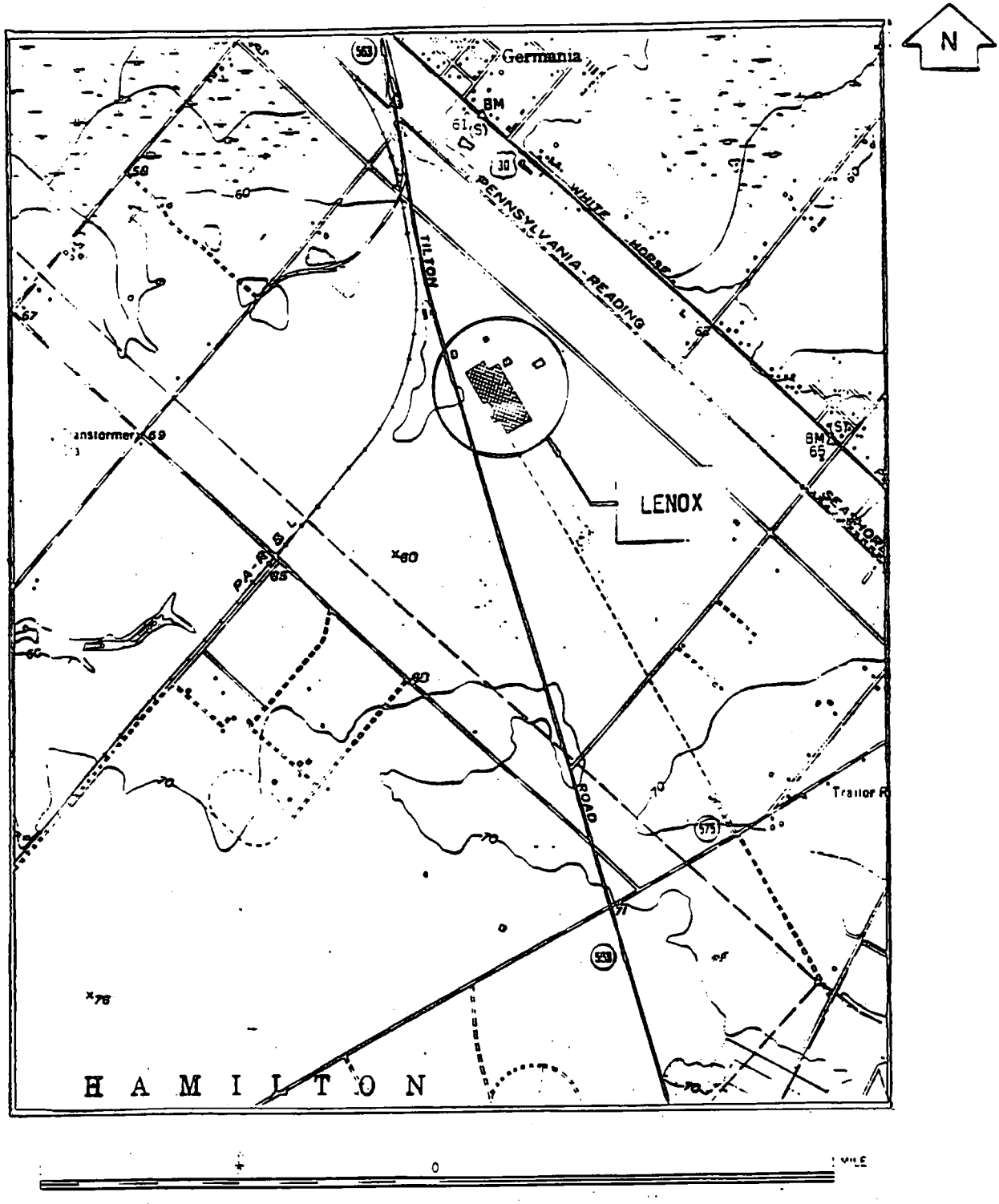
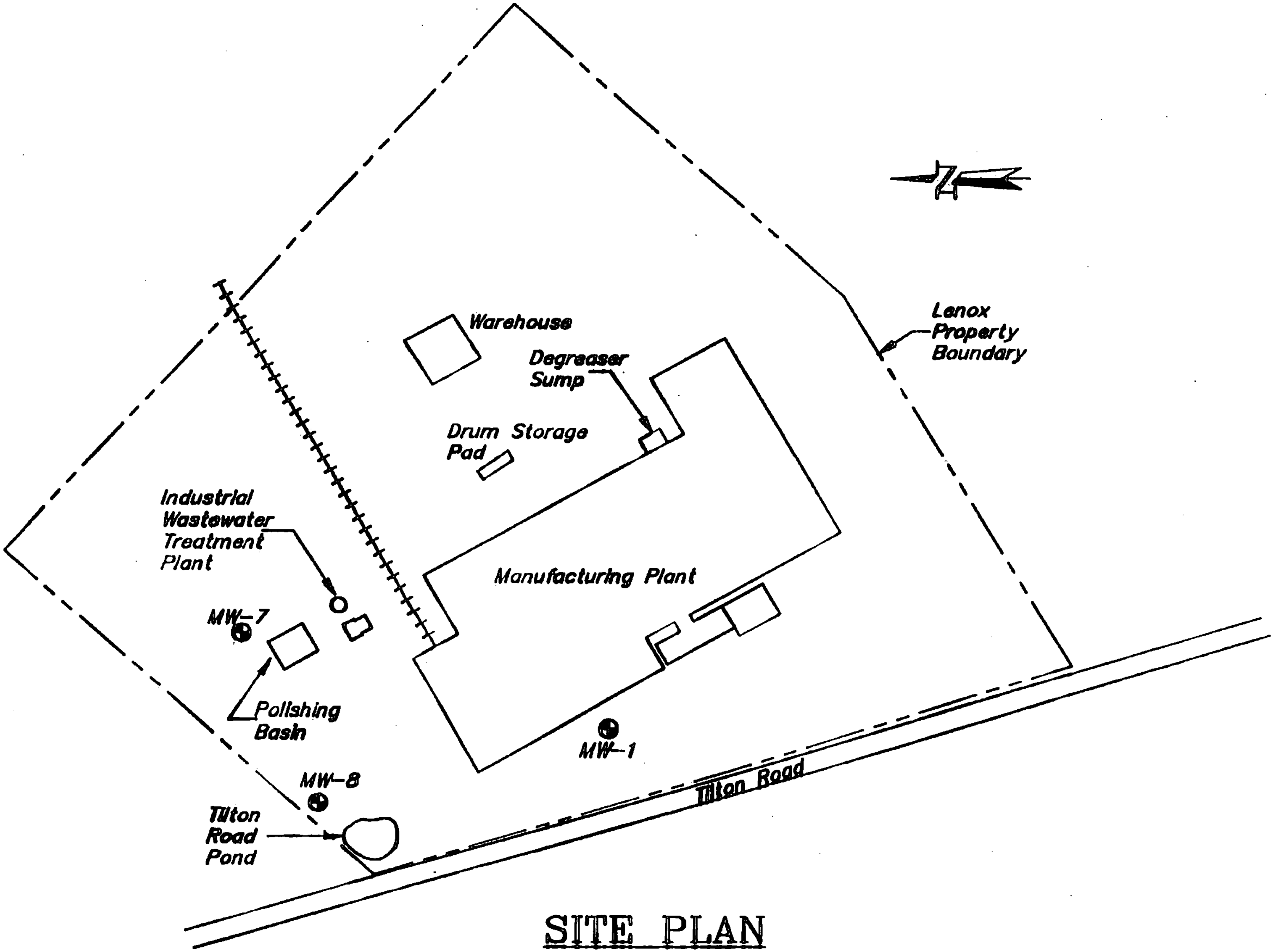


LOCATION MAP



SITE PLAN

LENOX CHINA
POMONA, NEW JERSEY

SK530-1E
010892

FIGURE 2

eder a: ociates consulting engineers, p.c.

APPENDIX A

POLISHING BASIN
SLUDGE SAMPLING PLAN

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QA/QC PLAN

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2. Samples will be placed into precleaned sample containers supplied by the laboratory.

3. Immediately after collection, the samples will be cooled to 4°C in an ice-filled cooler. The samples will be stored at 4°C until they are received by the laboratory.

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HEALTH AND SAFETY PLAN
EDER ASSOCIATES CONSULTING ENGINEERS, P.C.

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EA may require that its personnel take certain safety related precautions in accord with this HASP and EA requests that others protect their personnel in a manner that they deem necessary or sufficient.

APPROVAL DATE: 1/11/93

OFFICE: New York

PROJECT NAME: Lenox China

PROJECT # #530-1

CITY/STATE : Pomona, New Jersey

CLIENT CONTACT John Bysura

TOWNSHIP : Galloway

CLIENT PHONE # (609) 484-9797

SITE PHONE #

PROJECT MANAGER: Rick Inyard

FIELD LEADER : Jim Barish

SITE BACKGROUND: The Polishing Basin received treated effluent from an on-site industrial wastewater treatment plant. Contaminants of concern associated with the basin sludge include lead and zinc.

SIZE OF SITE: 56 acres

LOCATION: URBAN/RESIDENTIAL ___ COMMERCIAL ___ INDUSTRIAL X RURAL X

POTENTIAL SITE HAZARDS: SLIP/TRIP/FALL X CHEMICAL X HEAT STRESS X
COLD STRESS ___ OPEN PITS/LAGOONS X RADIATION ___
OVERHEAD UTILITIES 12 kV CONFINED SPACES ___
FLAMMABLE ATMOSPHERES ___ MACHINERY X
WORK AROUND DRILL RIGS X ASBESTOS ___
BURIED UTILITIES ___ FLOOR OPENINGS ___ LADDERS ___
POISONOUS PLANTS ___ GAS CYLINDERS ___
OTHERS _____

NOTE: List is not inclusive of all hazards which may be encountered.

ACTIVITIES TO BE PERFORMED BY EDER PERSONNEL:
SOIL SAMPLING X WELL SAMPLING ___
LAGOON/POND SAMPLING ___ TANK SAMPLING ___
DRUM SAMPLING ___ ASBESTOS SAMPLING ___
OVERSIGHT OF DRILL CREW X
ON SITE MEETING ___ SITE TOUR ___
AIR MONITORING ___
OTHER _____

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRES A SAFETY PLAN AMENDMENT

NAME OF SUBCONTRACTOR:

Absecon Motor Works/Pruchnicki

ACTIVITIES TO BE PERFORMED BY SUBCONTRACTOR:
SAMPLING/TYPE X / Soil
SURVEY WORK ___ EXCAVATION X SOIL LOADING
FOR TRANSPORT X WELL INSTALLATION ___ TANK
EXCAVATION ___ DRUM STAGING ___
AIR MONITORING ___ ON SITE MEETING ___
TEST PIT EXCAVATION ___
OTHER _____

NAME OF SUBCONTRACTOR:

_____

ACTIVITIES TO BE PERFORMED BY SUBCONTRACTOR:
SAMPLING/TYPE ___/_____
SURVEY WORK ___ EXCAVATION ___ SOIL LOADING
FOR TRANSPORT ___ WELL INSTALLATION ___ TANK
EXCAVATION ___ DRUM STAGING ___
AIR MONITORING ___ ON SITE MEETING ___
TEST PIT EXCAVATION ___
OTHER _____

LEVELS OF PROTECTION:

The following designated items will be the minimum protection required while in the exclusion zone. Specific activities may require modification to this list.

ANTICIPATED LEVEL OF PROTECTION: B ____ C ____ D X
WHY: TLVs for contaminants of concern not expected to be exceeded.

LEVEL B WILL INCLUDE: (Check all that apply)

TYVEK: Saranex ____ Poly Laminated ____ Paper ____
GLOVES: Surgical Liners ____ Nitrile ____ Silver Shields ____ Butyl ____
BOOTS: Steel Toe Leather ____ Latex Overboot ____ Robars ____ Other ____
SUPPLIED AIR: SCBA ____ Airlines ____
HARDHATS: ____ EAR PLUGS: ____
SPLASH APRON: Acid ____ Other/Type: ____/____
OTHER EQUIPMENT: Flash Lights ____ Radios ____ Life Jacket ____ Car Phone ____

ACTIVITIES TO BE PERFORMED IN LEVEL B: (Please List)

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRES A SAFETY PLAN AMENDMENT

LEVEL C WILL INCLUDE: (Check all that apply)

TYVEK: Saranex ____ Poly Laminated ____ Paper ____
GLOVES: Surgical Liners ____ Nitrile ____ Silver Shields ____ Butyl ____
BOOTS: Steel Toe Leather ____ Latex Overboot ____ Robars ____ Other ____
HARDHATS: ____ EAR PLUGS: ____
FULL FACE RESPIRATOR: Positive Pressure ____ Negative Pressure ____
CARTRIDGES: GMC-H ____ Other: ____ ESCAPE PACK: ____
OTHER EQUIPMENT: Flash Lights ____ Radios ____ Life Jacket ____ Car Phone ____

ACTIVITIES TO BE PERFORMED IN LEVEL C: (Please List)

LEVEL D WILL INCLUDE: (Check all that apply)

COVERALL: X
GLOVES: Surgical Liners ___ Nitrile X Cotton ___
BOOTS: Steel Toe Leather X Latex Overboot X Robars ___
HARDHAT: X SAFETY GLASSES: ___ EAR PLUGS: X
OTHER EQUIPMENT: Flash Lights ___ Radios ___ Life Jacket ___ Car Phone ___

ACTIVITIES TO BE PERFORMED IN LEVEL D: (Please List)

Excavate basin sludge and place in containers. Sample basin floor and side wall soil. Fill and grade basin (based on post closure laboratory analyses)

AIR MONITORING: (Check all that apply)

___ OVA	___ CGI	___ DRAGER TUBES	___ OTHER/TYPE
___ HNU/PROBE	___ PHOTOVAC TIP	___ MONITOR UNIT	
___ RADIATION METER	___ GILLIAN PUMPS	___ HI-VOL	

MEDICAL EMERGENCY INFORMATION:

HOSPITAL: Atlantic City Medical Center (Attach map with directions)
ADDRESS: Jimmie Leeds Road
Pomona, New Jersey TELEPHONE (609) 652-3450
DOES HOSPITAL HAVE CHEMICAL EXPOSURE CAPABILITIES? YES X NO ___
FIRE DEPARTMENT (609) 965-1000
POLICE TELEPHONE (609) 954-1200 AMBULANCE (609) 962-1200

FIRST AID KIT AVAILABLE AT (give on-site location) Polishing basin work area
EYE WASH STATION AVAILABLE AT (give on-site location) Lenox production plant

EDER ASSOCIATES TELEPHONE NO. (516) 671-8440 New York Office
(313) 663-2144 Michigan Office
(608) 836-1500 Wisconsin Office

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRES A SAFETY PLAN AMENDMENT

I have read and I understand the safety guidelines presented in this plan, including the notice on page 1 of this plan. I further understand that each contractor performing work on this site is responsible for the health and safety of its personnel.

CONTRACTOR'S FIELD SUPERVISOR

ADOPTED BY ______________________________ REPRESENTING ______________________________

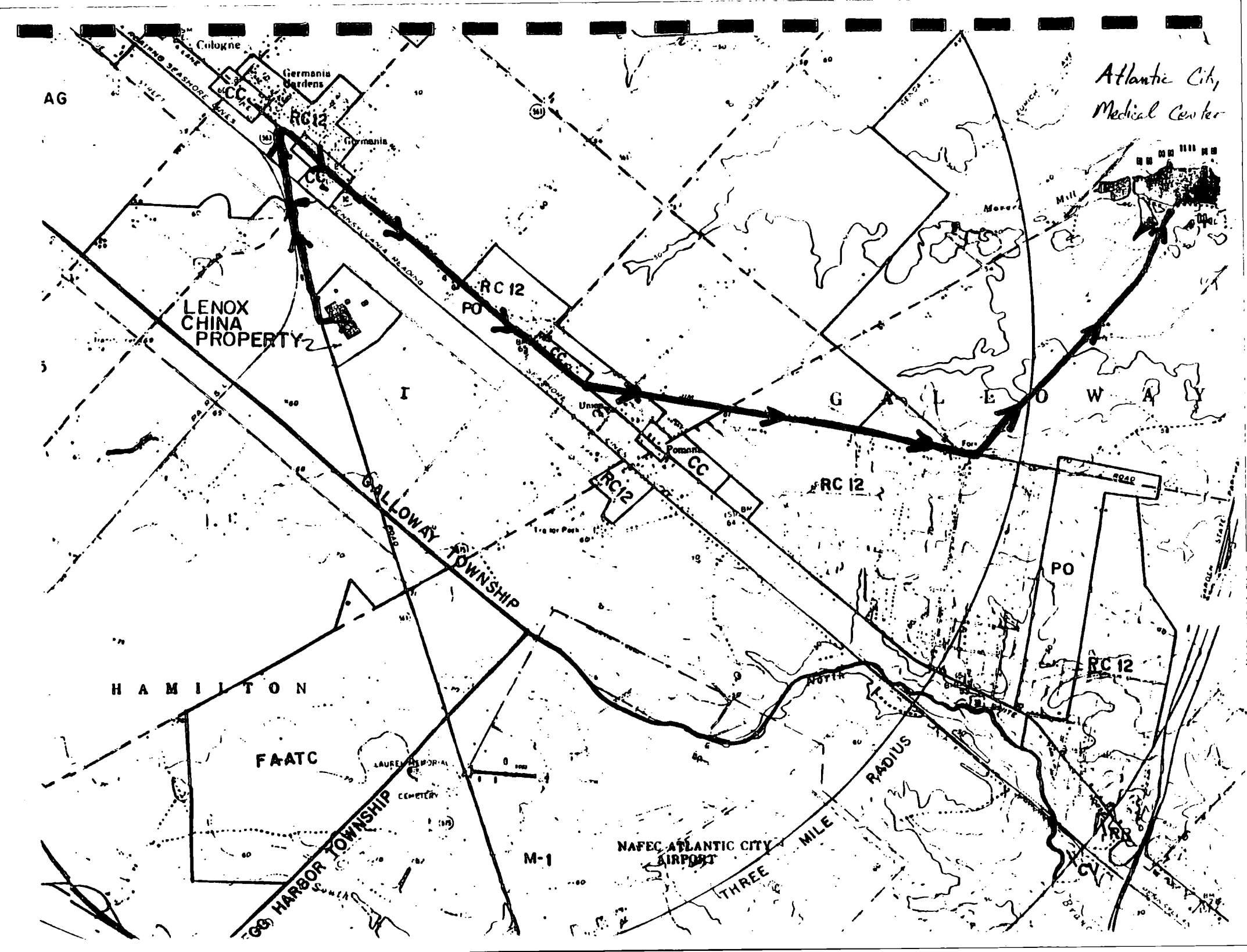
ADOPTED BY ______________________________ REPRESENTING ______________________________

ADOPTED BY ______________________________ REPRESENTING ______________________________

CLIENT/REGULATORS VISITING SITE

NAME	REPRESENTING
______________________________	______________________________
______________________________	______________________________
______________________________	______________________________
______________________________	______________________________

CHANGES AND/OR DEVIATIONS FROM THIS PLAN REQUIRE A SAFETY PLAN AMENDMENT


Atlantic City Medical Center
AG
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LENOX CHINA PROPERTY
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Pomona
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GALLOWAY TOWNSHIP
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H A M I L T O N
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LAUREL MEMORIAL CEMETERY
HARBOR TOWNSHIP
M-1
NAFEC ATLANTIC CITY AIRPORT
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NJ 002325 074 7E

CA93 - 19 JAN 1993

Mr. Frank Feranca
Case Manager
Bureau of Federal Case Management
New Jersey Department of Environmental
Protection and Energy
401 East State Street
CN-028
Trenton, New Jersey 08625

Re: Lenox China, Pomona, New Jersey
EPA I.D. No. NJD

Dear Mr. Feranca:

I have completed review of the revised sampling plan for the Polishing Basin Sludge from Lenox, dated January 11, 1993. My review comprises all aspects of the sampling plan, except the QA/QC. Since your office will be lead with respect to site corrective action, I am forwarding to you my comments.

Lenox proposes, in the revised sampling plan, to collect seven sludge samples for analysis for TCLP metals and volatile compounds. The proposed number of samples and the sampling parameters are acceptable to the extent that the sludge will be temporarily stored next to the Polishing Basin until Lenox finds appropriate options of off-site disposal.

However, as indicated in my November 23, 1992 letter, enclosed with this letter, the storage of sludge, which Lenox intends to be temporary, may be long-term (maybe more than one year) or even permanent. If long term storage is likely, additional sampling of sludge must be required for full characterization of the sludge. At a minimum, analysis should be conducted for the total concentrations of TCLP analytes and the solids content of the sludge. Furthermore, more information with respect to the design of the liner and the cap must be provided.

If you have any questions or require more information, please contact me at (212) 264-8684.

Sincerely yours,

Andrew Park, Environmental Engineer
New Jersey/Caribbean Corrective Action Section
Hazardous Waste Facilities Branch

Enclosure w/o enclosure
01/08/99 - KOM

bcc: Barry Tornick
Andrew Park ✓

MJ 002-325-074 FEB 3 1993

7E

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 642 608 704

CA93 — JAN 29 1993

Mr. Stephen F. Lichtenstein
Lenox Inc.
Lawrenceville, N.J. 08648-2394

Dear Mr. Lichtenstein:

Re: Lenox China - Pomona
Galloway Township, Atlantic County

The New Jersey Department of Environmental Protection and Energy (Department) and the United States Environmental Protection Agency (EPA) have reviewed the above referenced report prepared by Eder Associates on behalf of Lenox China (Lenox) and received on January 12, 1993. The Department and EPA have determined that the above referenced report is approved with the following modifications:

1. The revised sludge sampling plan is acceptable as written and should be incorporated into the overall Polishing Basin Closure/Post-Closure Plan dated July 1992.

2. Upon obtaining the results of the TCLP test, Lenox must provide specific information concerning the disposal of the sludge. This information must include:

   A. a list and description of all options for sludge disposal that are being evaluated.

   B. a timetable for the completion of these evaluations.

3. If Lenox plans to temporarily store the sludge onsite as a remedial action, Lenox must submit information on the design, construction and structural integrity of the liner and cap for the sludge. In addition, if long term storage (more than one year) is likely for the sludge (provided that the results indicate that the sludge is non-hazardous) additional sampling of the sludge must be required for full characterization of the sludge. At a minimum, analysis should be conducted for the total concentrations of TCLP analytes and the solids content of the sludge.

4. Be advised, if the sludge is determined to be hazardous, the temporary storage of the sludge outside of the basin will be strictly prohibited pursuant to NJAC 7:26-9.2(b)4 et seq.

Should you have any questions, please contact me at (609) 633-1455.

Sincerely,

Frank Faranca, Project Manager
Bureau of Federal Case Management

FFF

c: Andrew Park, USEPA, Region II
Daryl Clark, NJDEPE/DPFSR/BGWPA

NJ 002 325-074

7E

LENOX

(AGS - February 12, 1993

Mr. Frank Faranca
Project Manager
Bureau of Federal Case Management
Division of Responsible Party Site Remediation
New Jersey Department of Environmental Protection and Energy
CN 028
Trenton, N.J. 08625-0028

Re:-Lenox China - Pomona, Galloway Township, Atlantic County - Your letter to Stephen F. Lichtenstein dated January 29, 1993
-Polishing Basin Closure Plan - Lenox China, Pomona, New Jersey - Letter from Andrew Park, USEPA to Daryl Clark, NJDEPE dated November 23, 1992
-Northeast Analytical Corporation sample results - June 1992 and November 1992 (attached) - TCLP, % Solids
-Lenox Laboratory results - June 1992 and November 1992 (attached) - TCLP, Total Lead

Dear Mr. Faranca,

Results from sampling the sludge in accordance with the approved Polishing Basin Sludge Sampling Plan are attached for your review. The sampling was performed on November 23, 1992 in accordance with instructions from Daryl Clark in a telephone conversation on November 19, 1992. These and the previous sampling results (attached) demonstrate that the sludge is not hazardous based on Lenox's knowledge of the manufacturing process. The total lead was measured at 227.6 mg/kg and the solids content of the sludge is 65.7%.

Lenox will incorporate the sludge sampling plan into the Polishing Basin Closure/Post Closure Plan dated July 1992.

Lenox requested a minor modification to the closure plan to temporarily store the sludge on site while proceeding with closure of the Polishing Basin. Rather than postponing final closure while evaluating disposal/recycle options for the sludge (as the proposal was understood by Andrew Park), temporary storage would allow Lenox to proceed with closure while determining the disposition of the sludge. The drawing for the design, construction and structural integrity of liner and cap for temporary storage is enclosed.

This is to assure the Department that the sludge will be removed from temporary storage to appropriate landfill disposal within one year after it is placed in temporary storage unless Lenox is waiting for the requested approval of the USEPA and NJDEPE for another type of disposal.

Lenox is currently exploring several sludge disposal options:

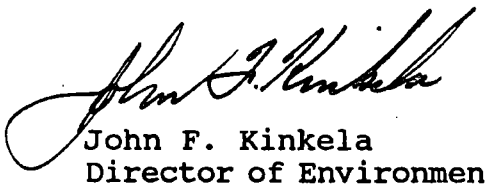
Atlantic County Utility Authority (ACUA) Bulky Waste Landfill, Delilah Road, Egg Harbor Township, Atlantic County - The predominately clay sludge would be incorporated in the landfill operation. The landfill has been approved to open as of 1993. The material has been submitted to the ACUA for NJDEPE approval of suitability for the purpose.

In addition to use in landfill operation, ACUA is considering the possible recycling of this and other Lenox bulky wastes, e.g. broken china and kiln setters, for bituminous asphalt and concrete pavement, road base or compost soil addition. No specific timetables have been established for these dispositions.

Lenox is also considering other recycling options such as use of the sludge as a raw material for producing the standard gray portland cements.

Lenox believes that all of the concerns and requirements of the two reference letters are fully addressed herein. Please review the enclosed sludge sampling results, tentative disposal options and temporary storage plans and determine whether Lenox may proceed with closure as proposed. If you have any questions please call me at (609) 484-9798.

Sincerely,



John F. Kinkela
Director of Environmental Engineering

cc: S. F. Lichtenstein
G.W. Berman
F. H. Inyard
Daryl Clark, NJDEPE/DPFSR/BGWPA
Andrew Park, USEPA, Region II

NAC Northeastern Analytical Corp.

ANALYTICAL DATA PACKAGE FOR:

LENOX CHINA

TILTON ROAD
POMANO, NJ 08240

ATTN: JAMES ENNIS

Project: POLISH BASIN Test Report Date: December 31, 1992

NAC Job Number: 924388

Lab Sample Number	Client Sample Designation	Collection Date
924388-001	A1	23-NOV-92

Paul P. Painter
Laboratory Director

Signature

Certifications:

PH-0726(CT), NJ101(DE), 160(MD), NJ101(MA), 203592A+B(NH), 03117(NJ), 11022(NY), 363(NC), 68-370(PA), 00237(VA)

NORTHEASTERN ANALYTICAL CORPORATION

I. METHODOLOGY

All analyses are adapted from one or more of the following reference methods:

- "Guidelines Establishing Test Procedures for the Analysis of Pollutants", Code of Federal Regulations Vol. 40, Part 136.
- "Test Methods for Evaluating Solid Waste", SW846 Third Edition, September 1986, USEPA.
- Code of Federal Regulations Vol. 40, Part 261, "Appendix II-Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)".
- "Standard Methods for the Examination of Water and Wastewater", 15th, 16th and 17th Edition.
- "Methods for the Chemical Analysis of Water and Wastes", EPA 600/4-79-020, March 1983, EMSL.
- Annual Book of Standards, Section 11-Water", American Society for Testing and Materials (ASTM).
- Methods for the Determination of Organic Compounds in Drinking Water", EPA 600/4-88/039, December 1988.

COMMENTS

- Reporting limits in this report defined as "MDL" are based on EPA protocol. These limits do not represent NAC's actual "Method Detection Limit", and therefore should be observed as Report Detection Limits only.
- If applicable, all tentatively identified compounds found in a sample as well as its associated blank have been noted with the "B" qualifier.

NORTHEASTERN ANALYTICAL CORPORATION

VOLATILE ORGANIC ANALYSIS DATA SHEET

LAB SAMPLE ID:92L-4388-1T

LAB FILE ID:>E1846

DATE RECEIVED:11/23/92

DATE ANALYZED:921210

SAMPLE WT/VOL:0.5ML/5ML

LEVEL:TCLP

CAS NO.		MDL	CONC. ug/L
75-01-4	Vinyl Chloride	100	U
75-35-4	1,1-Dichloroethene	50	U
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
78-93-3	2-Butanone	100	U
56-23-5	Carbon Tetrachloride	50	U
79-01-6	Trichloroethene	50	U
71-43-2	Benzene	50	U
127-18-4	Tetrachloroethene	50	U
108-90-7	Chlorobenzene	50	U

U; Not Detected

NORTHEASTERN ANALYTICAL CORPORATION

REPORT OF RESULTS

Client: LENOX CHINA Date Sampled: Nov 23, 1992

NAC Job Number: 924388 Date Received: Nov 23, 1992

Client ID: A1 Lab Sample ID: 924388-001

Total Solids: 85.99%

PARAMETER	RESULT	QUAL	UNITS
Arsenic, TCLP	0.1	U	mg/l
Barium, TCLP	0.77		mg/l
Cadmium, TCLP	0.003	U	mg/l
Chromium, TCLP	0.01		mg/l
Lead, TCLP	2.3		mg/l
Mercury, TCLP	0.0002	U	mg/l
Selenium, TCLP	0.1	U	mg/l
Silver, TCLP	0.01	U	mg/l

U - Not detected

NAC NORTHEASTERN ANALYTICAL CORPORATION

CHAIN OF CUSTODY RECORD

P.O. # P-11585

PROJ. NO. 94388 | PROJECT NAME: POLISH BASIN

SAMPLERS: JOHN BYSURA / JIM LYNIS

SAMPLE	DATE	TIME	SOIL	AQ.	SAMPLE LOCATION	NO. OF CONTAINERS	CONTAINER TYPE: 300ml-PVC	REMARKS
A1	11/23	11:30			POLISH BASIN	2		TCLP, METALS, VOC's &
								Send to J. Kinkela

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Jim Lynis	11/23/92 1:22				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks	

05

NORTHEASTERN ANALYTICAL CORPORATION

REPORT OF RESULTS

Client: LENOX CHINA
Date Sampled: Jun 18, 1992

NAC Job Number: 922219
Date Received: Jun 19, 1992

Client ID: POLISHPOND
Lab Sample ID: 922219-001

PARAMETER	RESULT	QUAL	UNITS
Barium, TCLP	2.3		mg/l
Cadmium, TCLP	0.003	U	mg/l
Chromium, TCLP	0.01	U	mg/l
Lead, TCLP	0.5		mg/l
Zinc, TCLP	47		mg/l
Total Solids	65.65		%

U - Not detected
wt - Wet Weight
dw - Dry Weight

LENOX

LENOX MANUFACTURING

INTER OFFICE CORRESPONDENCE

TO: J. Ennis

COPIES SENT TO: J. Bysura
M. Jobes
J. Kinkela

DATE: June 22, 1992

SUBJECT: Polishing Pond Basin Sludge

FROM: M. Behm

On June 18, a representative sample of the sludge in the polishing pond basin was collected and analyzed for lead using the EPA Toxic Characteristic Leaching Procedure (TCLP). A total of six samples were taken from the pond. Samples were taken from the small holes in each corner and two more from the middle of the pond. The samples were taken from the surface to approximately 12 inches below the surface. They were composited and three similar samples were made. The first sample was for the in-house TCLP test; the second was sent to NAC for a comparison TCLP test; and the third as a backup.

The samples were prepared for atomic absorption spectroscopy using NIOSH Method 3010 (Nitric Acid Digestion). The sample of the pond including its duplicate, a blank, and a 0.5 ppm spike were digested for quality control purposes. The following are the results of the in-house TCLP test:

Polishing Pond Basin Sludge		0.20 mg/L Pb
Blank	<	0.10 mg/L Pb
Spike of Pond Sludge Sample		0.71 mg/L Pb

MB:eaa
SLUDGE

LENOX

LENOX MANUFACTURING

INTER OFFICE CORRESPONDENCE

TO: J. Bysura

COPIES SENT TO: M. Behm
J. Ennis
R. Geary
J. Kinkela
J. Jones
B. Simmons

DATE: September 4, 1992

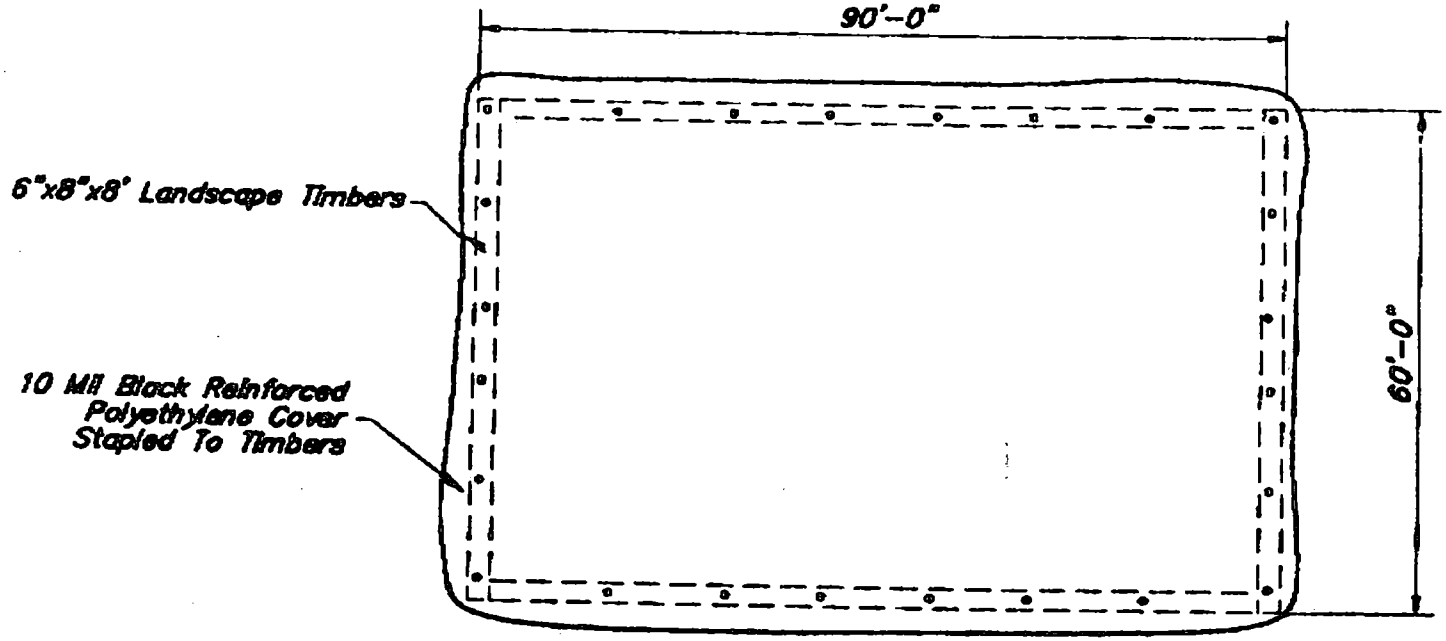
SUBJECT: **SOIL TOTAL LEAD ANALYSIS**

FROM: T. Hancharuk TH/mrh

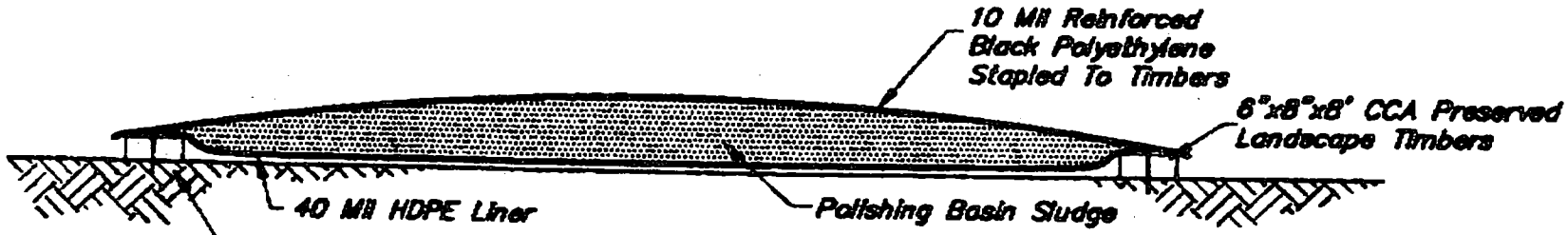
A total lead, nitric acid digestion was run on a polishing basin soil sample submitted by M. Bemm on 9/2/92. Below is the result of the analysis reported in mg/kg.

SAMPLE	LEAD(mg/kg)
Polish and Basin Soil	227.6

mrh



PLAN
NTS



SECTION
NTS

TEMPORARY POLISHING BASIN SLUDGE STORAGE

LENOX CHINA FACILITY
POMONA, NEW JERSEY

SK530-1C
021293

7E

NJ 002 325 074

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

VIA FACSIMILE
CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 261 037 505

Mr. Stephen F. Lichtenstein
Lenox Inc.
Lawrenceville, N.J. 08648-2394

CERCLA - MAR 31 1993

Dear Mr. Lichtenstein:

Re: **Lenox China - Pomona**
Galloway Township, Atlantic County

The New Jersey Department of Environmental Protection and Energy (Department) has reviewed two (2) representative samples from previous data packages submitted to the Department for compliance with contract X-26174, Task II, NJDEPE Data Deliverable Format. These samples were randomly selected from the July 30, 1992 Monitoring Report (Lancaster Laboratories) and Quarterly Ground Water Sampling Report dated November 1992 prepared by Geraghty & Miller, Inc. (Northeastern Analytical, Inc.). For your information and future reference for compliance with the contract mentioned above, enclosed please find a copy of the X-26174 contract. The following comments apply to those samples and shall be used as guidance as to the format for all future submissions for data deliverables:

Aqueous samples reviewed were:

Field ID.	Laboratory ID.	Analytical Laboratory
MW-10LL	WW1816475	Lancaster Laboratories, Inc.
MW-11 G&M	924446-001	Northeastern Analytical, Inc.

Sample 924446-001

A. Volatile Organics by USEPA Method 502.2

The following deliverables were missing from the volatile organic data package:

1. Sample identification for the matrix spike and matrix spike duplicate samples;
2. Method blank (dated 12-04-92) results;
3. Initial calibration data;
4. Continuing calibration data;
5. Chromatograms and quantitation reports for the initial and continuing calibration standards;
6. Calibration curve;
7. Method blank, and matrix spike and matrix spike duplicate chromatogram and quantitation reports;
8. Copy of the instrument analysis log;
9. Confirmatory chromatograms and quantitation reports; and
10. Calibration data for confirmation analysis.

B. Dissolved Metals by USEPA CLP, SOW, No. 787

The following deliverables were missing from the inorganic data package:

1. Duplicate summary;
2. Serial dilution summary;
3. Interference check sample summary;
4. Calibration summary;
5. Sample quantitation reports;
6. Initial and continuing calibration data and quantitation reports;
7. ICAP interference table;
8. Method blank data;
9. Spike data;
10. Duplicate data;
11. Serial dilution data;
12. Laboratory control sample data;
13. Copy of instrument analysis log; and
14. Preparation/digestion log.

Sample WW1816475

C. Volatile Organics by USEPA Method 601

The following missing deliverables and deviations were noted in the volatile organic data package:

1. Laboratory used USEPA Method 502.2, instead of Method 601;
2. Confirmatory chromatograms and quantitation reports;
3. Initial calibration chromatograms and quantitation reports;
4. Calibration data for confirmation analysis;
5. Matrix spike and matrix spike duplicate chromatograms; and
6. Instrument log.

D. Analyses for Dissolved Metals

The following deliverables were missing from the inorganic data package:

1. A methodology review;
2. Serial dilution summary;

3. Interference check sample summary;
4. Calibration summary;
5. Initial calibration data;
6. Continuing calibration data;
7. ICAP interference table;
8. Matrix spike data;
9. Duplicate data; and
10. Serial dilution data.

If you have any questions, please contact me at (609) 633-1455.

Sincerely,

Frank Faranca

Frank Faranca, Project Manager
Bureau of Federal Case Management

Enclosure w/o enclosure
FFF 01/08/99 - KON
c: Andrew Park, USEPA, Region II
Daryl Clark, NJDEPE/DPFSR/BGWPA
John Evenson, NJDEPE/DPFSR/BEMQA/EAS
Joe Sanguiliano, DPFSR/BEMQA
John Kinkela, Lenox China, Pomona Facility

NYJ 002 33 074

7E

LENOX

ENVIRONMENTAL PROTECTION AGENCY RG II
93 AUG 23 PM 12: 37
AWM-HAZ WASTE FAC. BRANCH

ENVIRONMENTAL PROTECTION AGENCY RG II
93 AUG 23 PM 12: 37
AWM-HAZ WASTE FAC. BRANCH

1993- August 18, 1993

Andrew Park
USEPA Region II
Hazardous Waste Facilities Branch
Room 1037, 26 Federal Plaza
New York, NY 10278

Dear Mr. Park,

As requested by Frank Faranca of the NJDEPE, enclosed please find a copy of the documents and reports concerning the resampling of the Tilton Road Pond sludge.

Should you have any questions, please call (609) 484-9798.

Sincerely,

William Simmons
Manager, Environmental Compliance

WS:bb
enc:

cc: S.F. Lichtenstein (without enclosures)

LENOX

August 13, 1993

BY CERTIFIED MAIL

Mr. Frank F. Faranca,
Case Manager
New Jersey Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
Bureau of Federal Case Management
CN 028
401 East State Street
Trenton, New Jersey 08625-0028

Re: HSWA Permit
EPA ID No. NJD 002325074

NJPDES-DGW Permit No. NJ0070343
Lenox China, A Division of Lenox, Inc.
Tilton Road, Atlantic County, Pomona, NJ 08240 and

Dear Mr. Faranca,

As previously requested in your letter dated May 26, 1993 (copy attached), Lenox is submitting the enclosed documents and reports concerning the resampling of the Tilton Road Pond sludge.

The Tilton Pond was resampled on April 1, 1993 by Andrew F. Bednar of Earth Sciences Consultants using the same sampling locations and protocol as the original sludge sampling conducted by him on February 10, 1993. He also collected additional samples for TOC in the event that it would be necessary to test for interferrence with the arsenic test due to organic carbon. The samples were composited, split and sent to Lancaster Laboratories and Antech Limited for analysis. His field notes are included here.

Lancaster Labs tested the composite sample for arsenic which was not detected at 0.2 mg/L. A complete Tier II data package is included along with a copy of the sample's Chain of Custody. A TOC analysis was not necessary.

Antech Ltd. tested the composite sample for arsenic which was not detected at 0.1 mg/L or 0.050 mg/L. Antech has applied for certification by NJDEPE and is going through the process at this time. Lenox sent the sample to Antech to provide

confirmation of any results which might be obtained by Lancaster Labs and to facilitate any further investigations of arsenic results. Further investigation was not necessary.

Should you have any questions concerning the above, please do not hesitate to contact me at (609) 484-9798.

Sincerely,

John F. Kinkela
Director of Environmental Engineering

JFK/jfk
Enclosures

cc: S.F. Lichtenstein (w/enclosures)
N.A. Andrianas, Eder Associates (w/encls)
A.F. Bednar, ESC (w/o enclosures)

C:\WPDATA\JFK\LTRS\TILSLUDG.89A

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Scott A. Weiner
Commissioner

Karl J. Delaney
Director

VIA FACSIMILE
CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO._____

MAY 26 1993

Mr. Stephen F. Lichtenstein
Lenox Inc.
Lawrenceville, N.J. 08648-2394

Dear Mr. Lichtenstein:

Re: **Lenox China - Pomona**
Galloway Township, Atlantic County
TCLP Results of the Tilton Pond Sludge

The New Jersey Department of Environmental Protection and Energy (Department) has reviewed the February 1993 Quarterly Ground Water Sampling Results prepared by Earth Sciences Consultants Inc. on behalf of Lenox China (Lenox). Included in this report was the results of the annual TCLP test that Lenox is required to perform on the Tilton Road Pond sludge.

The initial laboratory results indicate that the sludge is hazardous due to arsenic. Lenox subsequently collected an additional composite sludge sample and split this sample between two (2) laboratories (Lancaster and Anatech). Lenox claims that the results for the additional sample were nonhazardous for the resampled sludge in its submittal. In addition, Anatech is not currently a New Jersey certified laboratory.

The Department and EPA have determined that Lenox must submit to the Department and EPA the appropriate documents and reports concerning the resampling of the Tilton Road Pond sludge. All site characterization sampling must be done by TAL metals at defined locations, as the TCLP test and composite sampling are strictly used for the classification of waste prior to disposal and are not intended for site characterization.

Earth Sciences Consultants, Inc.

Field Activity Daily Log

Project No. 685 Project Name LENOX CHINA Sheet 1 of 1

Field Activity GROUNDWATER/SLUDGE SAMPLING Location POMONA, NJ Date 2/10/93

Daily Activities:

7:10 ARRIVE ON SITE

- HEAD TO MW-10, GENERATOR NOT FUNCTIONING-

9:20 HAND BAIL MW-10

(PRIOR TO BAILING, EQUIPMENT BLANK COMPLETED)

-COLLECT ODOR SAMPLES @ MW-7 AND MW-15

9:55 COMPLETE SAMPLING OF MW-10

10:10 HEAD TO TILTON POND TO COMMENCE SLUDGE SAMPLING (SEE MAP OF POND FOR APPROXIMATE SAMPLING LOCATIONS)

- THE COMPOSITE SLUDGE SAMPLE WAS COLLECTED UTILIZING A STAINLESS STEEL HAND AUGER WITH 20' OF EXTENSION. TWO SAMPLES WERE COLLECTED AT EACH LOCATION. THE SAMPLES FROM EACH OF THE SIX LOCATIONS WERE PLACED INTO A PLASTIC LINED BUCKET AND MIXED BY HAND. ONCE ALL THE SAMPLES WERE COLLECTED, THE RESPECTIVE SAMPLE CONTAINERS WERE FILLED. PRIOR TO COLLECTION @ EACH SAMPLE LOCATION, THE STAINLESS STEEL HAND AUGER WAS DECONNED WITH A LIQUINOX SOAP SCRUB FOLLOWED BY A DISTILLED WATER RINSE. THIS WAS FOLLOWED BY A HEXANE, METHANOL, AND NITRIC ACID RINSE AND FINAL DI WATER RINSE.

11:15 COMPLETE SAMPLING

11:30 CLEAN UP

11:40 DEPART SITE.

Weather Conditions:

Visitors On Site:

Earth Sciences Personnel On Site:

Prepared by: Andrew F. Beahan Date: 2/10/93

Earth Sciences Consultants, Inc.

Field Activity Daily Log

Project No. 685 Project Name LENOX CHINA Sheet 1 of 1

Field Activity GROUNDWATER / SLUDGE SAMPLING Location POMONA, NJ Date 8/10/93

Daily Activities:

7:10 ARRIVE ON SITE

- HEAD TO MW-10, GENERATOR NOT FUNCTIONING

9:20 HAND BAIL MW-10

(PRIOR TO BAILING, EQUIPMENT BLANK COMPLETED)

- COLLECT ODOR SAMPLES @ MW-7 AND MW-15

9:55 COMPLETE SAMPLING OF MW-10

10:10 HEAD TO TILTON POND TO COMMENCE SLUDGE SAMPLING (SEE MAP OF POND FOR APPROXIMATE SAMPLING LOCATIONS)

- THE COMPOSITE SLUDGE SAMPLE WAS COLLECTED UTILIZING A STAINLESS STEEL HAND AUGER WITH 20' OF EXTENSION. TWO SAMPLES WERE COLLECTED AT EACH LOCATION. THE SAMPLES FROM EACH OF THE SIX LOCATIONS WERE PLACED INTO A PLASTIC LINED BUCKET AND MIXED BY HAND. ONCE ALL THE SAMPLES WERE COLLECTED, THE RESPECTIVE SAMPLE CONTAINERS WERE FILLED. PRIOR TO COLLECTION @ EACH SAMPLE LOCATION, THE STAINLESS STEEL HAND AUGER WAS DECONNED WITH A LIQUINOX SOAP SCRUB FOLLOWED BY A DISTILLED WATER RINSE. THIS WAS FOLLOWED BY A HEXANE, METHANOL, AND NITRIC ACID RINSE AND FINAL DI WATER RINSE.

11:15 COMPLETE SAMPLING

11:30 CLEAN UP

11:40 DEPART SITE.

Weather Conditions:

Visitors On Site:

Earth Sciences Personnel On Site:

Prepared by: Charles F. Beahan Date: 8/10/93

Earth Sciences, Inc.

Field Activity Daily Log

Project No. 685 Project Name LENOX CHINA Sheet 1 of 1

Field Activity SLUDGE RESAMPLING Location POMONA, NJ Date 4/1/93

Daily Activities:

12:10 ARRIVE ON SITE

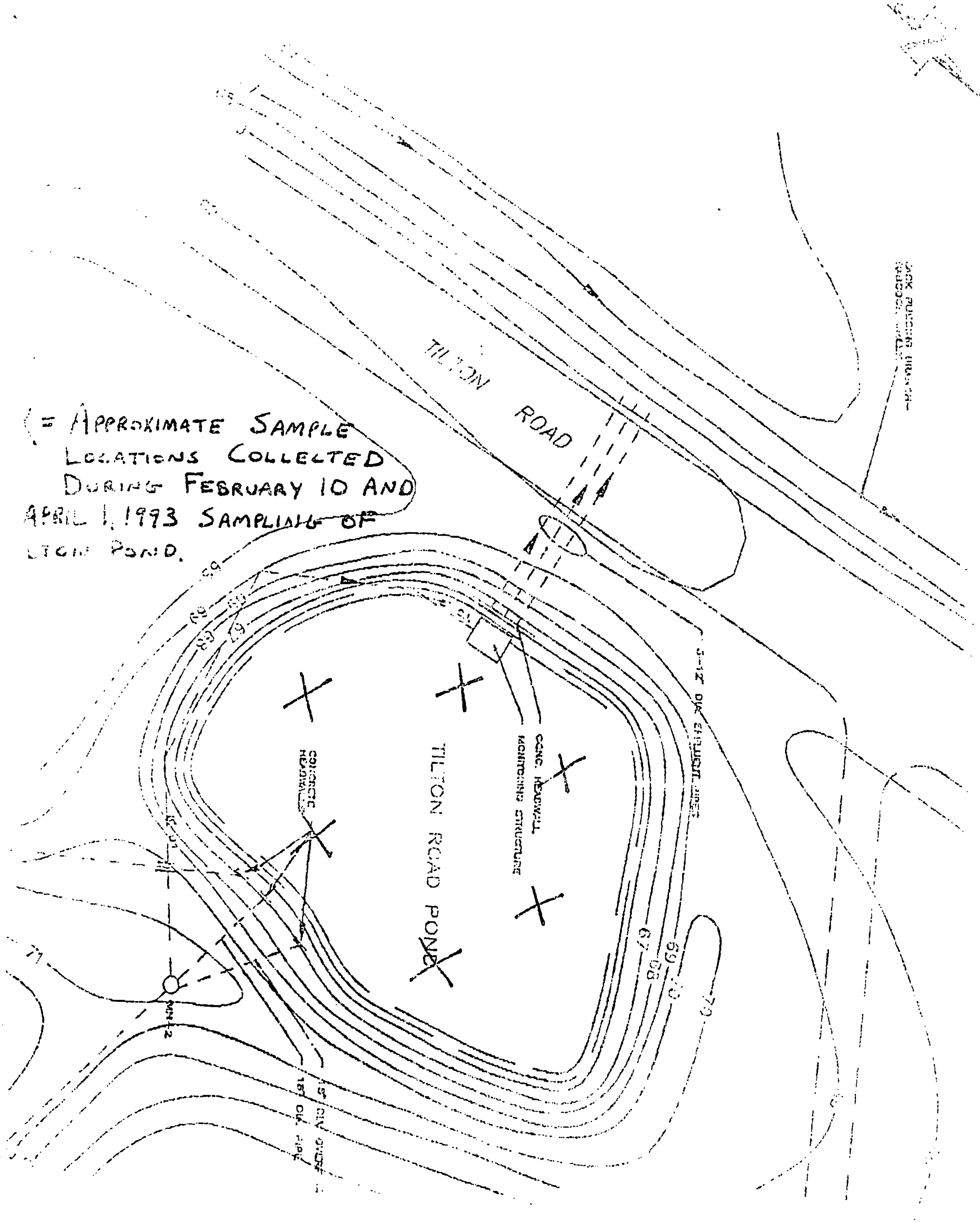
12:25 COMMENCE SAMPLING

- SAME METHODOLOGIES OF SAMPLE COLLECTION AS 2/10/93 SAMPLING EVENT
- ALSO COLLECT ADDITIONAL SAMPLE FOR POTENTIAL TOC ANALYSIS.

1:00 OFF SITE.

Weather Conditions:	Visitors On Site:
Earth Sciences Personnel On Site:	

Prepared by: Andrew F. Redmon Date: 4/1/93



X = APPROXIMATE SAMPLE LOCATIONS COLLECTED DURING FEBRUARY 10 AND APRIL 1, 1993 SAMPLING OF TILTON POND.
TILTON ROAD
TILTON ROAD POND
CONC. HEADWALL
MONITORING STRUCTURE
CONCRETE HEADWALLS
67
68
69
70
71

Antech Ltd.

One Triangle Drive • Export, Pennsylvania 15632 • Phone: (412) 733-1161 • Fax: (412) 327-7793

April 16, 1993

Mr. Bruce E. Smith
Project Manager
Earth Sciences Consultants, Inc.
One Triangle Drive
Export, PA 15632

Sludge Characterization: 685-01
Lenox China
Antech Ltd. Project No. 93-1020

Dear Mr. Smith:

Enclosed are analytical results for the sample submitted by Earth Sciences Consultants, Inc. The sample was received and logged in for analysis on April 5, 1993.

Appropriate U.S. Environmental Protection Agency methods were used and are indicated accordingly on the data table. Appropriate quality assurance/quality control analyses were performed in accordance with Antech Ltd.'s Statement of Qualifications. If you have any questions, please call me.

Sincerely,

Dominic J. Nestasie
Technical Manager

DJN:aeb

Enclosures

ANTECH LTD.
CASE NARRATIVE

I. GENERAL:

A: PROJECT NUMBERS:

ANTECH LTD.: 93-1020

CLIENT: 685-01

B: SAMPLE IDENTIFICATIONS:

ANTECH LTD.: 9304-0272

CLIENT: Tilt Pond Sludge

C: SHIPPING/RECEIVING COMMENTS:

None

II. PREPARATION/ANALYSIS COMMENTS:

A: PREPARATION:

None

B: METALS:

None

III. GENERAL COMMENTS:

Trailing zeroes and decimal places appearing on the data should not be interpreted as precision of the analytical procedure, but rather as a result of reporting format. Please refer to the enclosed TCLP Regulatory Levels table for appropriate regulatory levels and hazardous waste numbers.

Table 1
General Data Table
Earth Sciences Consultants, Inc.
Antech Ltd. Project No. 93-1020
Sludge Characterization; 685-01
Lenox China

Parameter	Analytical Method	Units	Sample Identification 9304-0272 Tilt Pond Sludge (4/1/93)
TCLP(1) Metals:			
Arsenic (TCLP)	6010(2)	mg/l	<0.10
Arsenic (TCLP)	7060(2)	mg/l	<0.050
TCLP Extraction Fluid Data:			
Extraction Fluid	1311(2)	-	No.1
pH with Deionized Water		pH units	7.63
pH After Addition of 1 Normal HCL		pH units	2.01
pH of TCLP Extract		pH units	5.01
Amount of Sample Extracted		g	40.0

(1)Toxicity Characteristic Leaching Procedure (TCLP) results have not been bias corrected.
(2)U.S. Environmental Protection Agency, 1987, Test Methods for Evaluating Solid Waste, SW-846, 3rd ed., Office of Solid Waste and Emergency Response, Washington, DC.

Lancaster Laboratories
3425 New Holland Pike • Lancaster, PA 17601-5994

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages may be returned or held without review until the data package is completed.

		Check if Complete
I.	Cover Page, Format, and Laboratory Certification (Include Cross Reference Table of Field I.D.. # and Laboratory I.D. #)	✓
II.	Chain of Custody	✓
III.	Summary Sheets Listing Analytical Results Including QA Data Information (see Attached Form and ESPG Attachment 2.B.2.C.)	✓
IV.	Laboratory Chronicle and Methodology Summary including Sampling Holding Time Check	✓
V.	Initial Calibration and Continuing Calibration	N/A
VI.	Tune Summary (MS)	N/A
VII.	Blanks (Method, Field, Trip)	✓
VIII.	Surrogate Recovery Summary	N/A
IX.	Chromatographs Labelled/Compound Identification	✓
X.	Non-Conformance Summary	✓

Sandra J Patton
Laboratory Manager or Environmental Consultant's Signature

4/21/93
Date

Data Package

After-the-Fact
Tier II Data Package

Analytical Data Report Package
for
Lenox China

Project No. 685
Lenox
Pond Sludge Sample
Collected on 04/01/93 by AFB
LLI Sample No. 1949866

Prepared by Julie Fritsch

Reviewed & Approved by Sandra T Patton

Date 4/21/93

Delivery Date 4/23/93

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Sample Reference List for Lenox China with a Package Type of TIER II

Lab Sample Number	Sample Code	Client Sample Description
1949866		TCLP Non-volatile Extraction of Tilton Pond Sludge

TABLE OF CONTENTS

Earth Sciences Consultants, Inc.

Chain of Custody Record

Project No. 685

Project Name LENOX

Samplers (signature) Andrew J Bader

Station No.	Date	Time	Comp.	Grab	Station Location	No. of Containers												Remarks
TILT. POND SLUDGE	4/1/93					2	1	1										

Relinquished by (signature) Andrew J Bader	Date/Time 4/2/93 1055	Received by (signature)	Remarks - ANALYZE TCLP ARSENIC ONLY - HOLD REMAINING BOTTLE FOR POTENTIAL TOC ANALYSIS
Relinquished by (signature)	Date/Time	Received by (signature)	
Relinquished by (signature)	Date/Time	Received by (signature)	
Relinquished by (signature)	Date/Time	Received by (signature)	
Relinquished by (signature)	Date/Time 4/2/93 1053	Received for Laboratory by (signature)	

Rev. 2/6/92

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LLI LAB CHRONICLE

Analysis		Trial	Analysis Date
LLI Sample # 1949866			
Lenox China			
TCLP Non-volatile Extraction of Tilton Pond Sludge			
Lenox - Bill Proj. No. 685			
Collected 04/01/93 by AB			
Receipt/Refrigeration: 04/02/93			
1335	Arsenic	1	04/15/93
1848	Metals Water Digestion	1	04/08/93
0947	TCLP Non-volatile Extraction	1	04/06/93

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2425 New Holland Pike
Lancaster, PA 17601-5994
717-656-2301

2

See reverse side for explanation of symbols and abbreviations.

METHODOLOGY SUMMARY/REFERENCE

1335 Arsenic (water)

The solution resulting from the metals digestion is analyzed by ICP.

Reference: Test Methods for Evaluating Solid Waste
SW-846, Method 6010, December 1986

****

1848 Metals Water Digestion

The sample is digested with nitric and hydrochloric acids.

Reference: Methods for Chemical Analysis of Water and Wastes
USEPA 600/4-79-020, Section 200.0, Part 4.1.3 (waters)

Lancaster Laboratories
Where quality is a science.

10:10:53 373635
ASR000 D 2 2
06850 0

Lenox China
Tilton Road
Pomona, NJ 08240

LLI Sample No. TL 1949866
Date Reported 4/16/93
Date Submitted 4/ 2/93
Discard Date 5/ 1/93
Collected 4/ 1/93 by AB
Time Collected
P.O. C-629-92
Rel.

TCLP Non-volatile Extraction of Tilton Pond Sludge
Lenox - Bill Proj. No. 685

ANALYSIS	RESULT AS RECEIVED		LIMIT OF QUANTITATION	LAB CODE
Arsenic	< 0.2	mg/l	0.2	133501400

1 COPY TO Lenox China
1 COPY TO Earth Sciences

ATTN: Mr. John Kinkela
ATTN: Mr. Bruce Smith

Questions? Contact Environmental Client Services at (717) 656-2301
854 06850 110.00 012400

Respectfully Submitted
Lancaster Laboratories, Inc.

Ramona V. Layman, Group Leader
Instrumental Water Chemistry

Lancaster Laboratories, Inc.
2425 New Holland Pike
Lancaster, PA 17601-5994
717-656-2301

See reference sheet for explanation of symbols and abbreviations.

METALS DATA

CASE NARRATIVE

CASE NARRATIVE FOR INORGANICS

Laboratory Name: Lancaster Laboratories

SDG Number: ATF04

Date Received: 04/02/93

No problems found.

Case Narrative reviewed and approved by:

Eric W. Cuba

Eric W. Cuba, Chemist II Coordinator
Inorganic Data Packages

Date 4/19/93

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QC SUMMARY

QUALITY ASSURANCE SUMMARY

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: LANCASTER_LABORATORIES_____

SDG No.: ATF04__

Client Sample ID	Lab Sample ID
_TCLP-_____	__1949866_____

Were ICP interelement corrections applied ? Yes/No YES

Were ICP background corrections applied ? Yes/No YES
If yes - were raw data generated before application of background corrections ? Yes/No NO_

LEGEND:

U = Below MDL B = Below LOQ

FLAGS: (indicate matrix interference)
- N = Matrix Spike OOS
- * = Duplicate OOS
- W = Method F Analytical Spike Recovery <85% or >115% when the sample conc. is <50% of the spike conc.
- S = Analysis Determined by MSA
- + = MSA Correlation Coefficient <0.995
- E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

Presence of FLAGS does not invalidate data

METHODS:
- A = Flame Atomic Absorption
- P = Inductively Coupled Plasma
- F = Graphite Furnace
- AS = Hydride Generation
- CV = Cold Vapor
- NR = Not Required

TERMS:
- MDL = Method Detection Limit
- LOQ = Limit Of Quantitation
- OOS = Out Of Specification
- MSA = Method Of Standard Addition

I certify that this data package is in full compliance with the terms and conditions as specified by the NJDEP, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Eric W. Cuba Name: Eric W. Cuba

Date: 4/19/93 Title: Chemist II Coordinator Inorganic Data Packages

QUALITY ASSURANCE SUMMARY

BLANKS

Lab Name: LANCASTER_LABORATORIES_____

SDG No.: ATF04_

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L_

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic									36.900	U	P
Barium											NR
Beryllium											NR
Boron											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead											NR
Lithium											NR
Magnesium											NR
Manganese											NR
Mercury											NR
Molybdenu											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silicon											NR
Silver											NR
Sodium											NR
Strontium											NR
Thallium											NR
Tin											NR
Titanium											NR
Vanadium											NR
Zinc											NR
											NR

QUALITY ASSURANCE SUMMARY

SPIKE SAMPLE RECOVERY

CLIENT SAMPLE NO.

MATRIXS

Lab Name: LANCASTER_LABORATORIES_____

SDG No.: ATF04
Matrix: WATER
% Solids for Sample: __0.0

Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	75-125	1984.4300		36.9000	U	2000.00	99.2		P
Barium									NR
Beryllium									NR
Boron									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Lithium									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Molybdenu									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silicon									NR
Silver									NR
Sodium									NR
Strontium									NR
Thallium									NR
Tin									NR
Titanium									NR
Vanadium									NR
Zinc									NR
									NR

NOTE: An (N) in column "Q" indicates a spike recovery that is not within the control limits. The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample page of the Quality Assurance Summary.

Comments:

QUALITY ASSURANCE SUMMARY

DUPLICATES

CLIENT SAMPLE NO.

MATRIXD

Lab Name: LANCASTER_LABORATORIES

SDG No.: ATF04

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic		36.9000	U	36.9000	U			P
Barium								NR
Beryllium								NR
Boron								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead								NR
Lithium								NR
Magnesium								NR
Manganese								NR
Mercury								NR
Molybdenu								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silicon								NR
Silver								NR
Sodium								NR
Strontium								NR
Thallium								NR
Tin								NR
Titanium								NR
Vanadium								NR
Zinc								NR
								NR

NOTE: An asterisk(*) in column "Q" indicates poor duplicate precision. The data are considered to be valid because the laboratory control sample is within the control limits. See the Laboratory Control Sample page of the Quality Assurance Summary.

QUALITY ASSURANCE SUMMARY

LABORATORY CONTROL SAMPLE

Lab Name: LANCASTER_LABORATORIES_____

SDG No.: ATF04_

Solid LCS Source: _____

Aqueous LCS Source: LLI_____

Analyte	Aqueous (ug/L) True	Found	%R(1)	Solid (mg/kg) True	Found	C	Control Limits		%R
Aluminum									
Antimony									
Arsenic	2000.0	2064.24	103.2						
Barium									
Beryllium									
Boron									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Lithium									
Magnesium									
Manganese									
Mercury									
Molybdenu									
Nickel									
Potassium									
Selenium									
Silicon									
Silver									
Sodium									
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

(1) Control Limits: All Metals 80-120

SAMPLE DATA

QUALITY ASSURANCE SUMMARY

INORGANIC ANALYSES DATA SHEET
FORM I

CLIENT SAMPLE NO.

TCLP-

Lab Name: LANCASTER_LABORATORIES
SDG No.: ATF04
Matrix (soil/water): WATER
Level (low/med): LOW
% Solids: 0.0

Lab Sample ID: 1949866
Date Received: 04/02/93

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	36.9	U		P
7440-41-7	Beryllium				NR
	Boron				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
	Lithium				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
	Molybdenu				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
	Silicon				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
	Strontium				NR
7440-28-0	Thallium				NR
	Tin				NR
	Titanium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
					NR

Color Before:
Color After:

Clarity Before:
Clarity After:

Texture:
Artifacts:

Comments:

QUALITY ASSURANCE SUMMARY

Method Detection Limits (Annually)

Lab Name: LANCASTER_LABORATORIES
SDG No.: ATF04
ICP Method No.: ICP_1,2_AQUEOUS Date: 01/15/92
Other AA Method No.:
Furnace AA Method No.:

Analyte	Wave-length (nm)	Back-ground	LOQ ** (ug/L)	MDL (ug/L)	M
Aluminum			200		
Antimony			200		
Arsenic	193.70		200	36.9	P
Barium			100		
Beryllium			10		
Boron			40		
Cadmium			10		
Calcium			200		
Chromium			50		
Cobalt			50		
Copper			20		
Iron			100		
Lead			3		
Lithium			20		
Magnesium			100		
Manganese			10		
Mercury			0.2		
Molybdenu			100		
Nickel			50		
Potassium			500		
Selenium			200		
Silicon			300		
Silver			20		
Sodium			400		
Strontium			10		
Thallium			10		
Tin			300		
Titanium			10		
Vanadium			10		
Zinc			40		

** The LOQ must be adjusted for % Solids and Sample Weight for samples reporting in mg/Kg.

Comments:

AS

Client Calling

Run Name: 9310501161

LANCASTER LABORATORIES

INSTRUMENT ID: 03144

21 1949866 04/15/93 12:59
****.100-100,DF1.930981848005.3..

ELEM	AVERAGE (ppm)	%RSD	BURN#1	BURN#2	BURN#3	REREAD PEDIG
Ag	0.00007	1230.	0.00007	0.00103	-0.0008	
Al	1.12358	0.683	1.11514	1.13016	1.12543	
X As	0.01031	86.98	0.02051	0.00359	0.00684	
B	0.20214	1.420	0.19883	0.20402	0.20356	
Ba	1.65310	0.428	1.64548	1.65946	1.65438	
Be	0.00043	0.328	0.00042	0.00043	0.00042	
Ca	60.23547	0.491	60.0021	60.5684	60.1358	
Cd	0.01304	5.191	0.01257	0.01382	0.01274	
Co	0.03110	3.955	0.03203	0.03156	0.02971	
Cr	0.00045	276.6	-0.0010	0.00118	0.00118	
Cu	0.63956	0.060	0.63911	0.63978	0.63978	
Fe	1.30570	0.443	1.30460	1.31197	1.30054	
K	2.37420	4.041	2.44049	2.41794	2.26417	
Mg	0.99530	1.194	0.99318	1.00811	0.98460	
Mn	0.07344	0.001	0.07344	0.07344	0.07344	
Mo	0.00178	152.8	0.00158	0.00460	-0.0008	
Na	1355.95532	0.155	1354.41	1358.36	1355.08	
Ni	0.06338	6.233	0.06630	0.06495	0.05889	
Pb	25.63588	0.634	25.5098	25.8194	25.5783	
Sb	0.00083	745.6	0.00121	0.00688	0.0055	
Se	-0.00163	1461.	-0.0080	0.02473	-0.0216	
Si	2.26029	0.650	2.24928	2.27700	2.25460	
Sn	0.00427	74.42	0.00243	0.00793	0.00243	
Sr	0.57163	0.529	0.56849	0.57453	0.57189	
Ti	0.00300	49.95	0.00132	0.00420	0.00348	
Tl	0.04041	230.1	0.14144	0.02148	-0.0416	
V	0.00638	7.430	0.00632	0.00688	0.00594	
Zn	7.52175	0.581	7.48910	7.57142	7.50471	

RAW QC DATA

AS Cd

Run Name: 9310501161

PAGE: 14 LANCASTER LABORATORIES

INSTRUMENT ID: 03144

14 CRW
****.100-100,DF1,930981848005,3.. 04/15/93 12:28

ELEM	AVERAGE (ppm)	%RSD	BURNR1	BURNR2	BURNR3	REPEAD RESULTS
Ag	0.00671	39.79	0.00911	0.00719	0.00383	
Al	-0.01051	82.31	-0.0036	-0.0076	0.0202	
✓As	-0.00220	257.9	0.00418	0.0040	-0.0067	
B	-0.00100	227.4	0.00158	-0.0018	0.0027	
Ba	-0.00042	0.000	-0.0004	-0.0004	-0.0004	
Be	0.00010	304.5	0.00010	0.00041	0.0002	
Ca	0.00383	45.91	0.00230	0.00345	0.00576	
✓Cd	-0.00071	28.81	-0.0005	-0.0005	0.0009	
Co	-0.00185	49.98	-0.0027	-0.0009	-0.0018	
Cr	0.00072	87.27	-0.0000	0.00109	0.00108	
Cu	-0.00089	86.61	0.00000	-0.0013	-0.0013	
Fe	0.00147	33.11	0.00092	0.00184	0.00165	
K	-0.07927	108.6	-0.0423	-0.0177	-0.1776	
Mg	-0.00937	154.9	0.00678	-0.0135	0.0213	
Mn	-0.00034	0.297	-0.0003	-0.0003	-0.0003	
Mo	-0.00201	59.99	-0.0008	-0.0032	-0.0020	
Na	-0.00973	66.57	-0.0032	-0.0097	0.0162	
Ni	-0.00089	43.30	0.0011	-0.0004	-0.0011	
Pb	-0.00673	40.04	-0.0098	-0.0051	0.0051	
Sb	-0.01163	52.58	-0.0050	-0.0172	0.0126	
Se	-0.00746	217.1	0.00966	-0.0094	0.0225	
Si	0.06913	4.166	0.06785	0.07243	0.06711	
Sn	-0.00275	0.078	-0.0027	-0.0027	-0.0027	
Sr	0.00000	0.000	0.00000	0.00000	0.00000	
Ti	0.00120	105.3	0.00240	0.00132	0.0001	
Tl	-0.17730	17.37	-0.1689	-0.1515	-0.2114	
V	-0.00119	105.0	-0.0008	-0.0001	-0.0025	
Zn	0.00150	37.94	0.00213	0.00137	0.00101	

As Cd

Run Name: 9310501161

PAGE: 15

LANCASTER LABORATORIES

INSTRUMENT ID: 03144

15 LCSW 04/15/93 12:32
****,1-1,DF1,930981848005,3,,

ELEM	AVERAGE (ppm)	%RSD	BURN#1	BURN#2	BURN#3	REREAD REQUIRED
Ag	0.06813	4.298	0.07060	0.06877	0.06503	
Al	1.96690	0.419	1.96296	1.96136	1.97638	
✓As	2.06424	0.520	2.05279	2.06584	2.07409	
B	1.94587	1.043	1.93825	1.93049	1.96888	
Ba	2.03757	0.844	2.02995	2.02550	2.05727	
Be	0.05267	1.592	0.05236	0.05204	0.05363	
Ca	3.92342	0.799	3.89712	3.91498	3.95815	
✓Cd	0.05081	2.461	0.04992	0.05224	0.05028	
Co	0.48691	0.899	0.48846	0.48197	0.49030	
Cr	0.21169	1.075	0.20986	0.21424	0.21098	
Cu	0.25344	0.852	0.25501	0.25098	0.25434	
Fe	1.04091	0.898	1.03685	1.03427	1.05160	
K	4.01783	1.576	4.02945	3.94949	4.07455	
Mg	1.85454	0.416	1.84932	1.85089	1.86341	
Mn	0.51046	0.948	0.50875	0.50671	0.51592	
Mo	2.06100	0.720	2.05013	2.05496	2.07792	
Na	4.12117	0.688	4.09363	4.11957	4.15031	
Ni	0.51900	0.396	0.51945	0.51675	0.52080	
Pb	0.50474	0.616	0.50286	0.50164	0.50972	
Sb	0.50327	0.851	0.49848	0.50672	0.50462	
Se	2.00708	0.851	1.99179	2.00392	2.02553	
Si	3.87202	0.608	3.85264	3.86520	3.89822	
Sn	3.89575	0.815	3.87097	3.88473	3.93154	
Sr	0.96994	0.979	0.96645	0.96267	0.98069	
Ti	0.97569	0.778	0.97149	0.97113	0.98446	
Tl	1.87603	6.231	1.89267	1.75170	1.98373	
V	0.47504	0.341	0.47359	0.47472	0.47679	
Zn	0.53317	0.692	0.52980	0.53260	0.53711	

EXTRACTION/DISTILLATION/DIGESTION LOGS

QUALITY ASSURANCE SUMMARY

PREPARATION LOG

Lab Name: LANCASTER_LABORATORIES_____

SDG No.:_ATF04_

Method: P_

Client Sample No.	Preparation Date	Weight (gram)	Volume (mL)
LCSW	04/08/93		100
MATRIX	04/08/93		100
MATRIXD	04/08/93		100
MATRIXS	04/08/93		100
PBW	04/08/93		100
TCLP-	04/08/93		100

Lancaster Laboratories

CLP WATER DIGESTION LOGBOOK

Batch # 93C98 848 CC5

Digest Type 1848 Metals ICP COC (Y/N) N Digest Delivered 215

Digest Received

	Sample No.	T	Initial Vol (ml)	Final Vol (ml)	EPA Number	SDG Number	Date	Init.
TL 1	1949558	1	100	100			4/8/93	CN598
2	9600	↓	↓	↓			↓	↓
3	9866	↓	↓	↓			↓	↓
4	1951236	↓	↓	↓			↓	↓
5	1237	↓	↓	↓			↓	↓
6	1238	↓	↓	↓			↓	↓
7	1239	↓	↓	↓			↓	↓
8	1240	↓	↓	↓			↓	↓
9	1241	↓	↓	↓			↓	↓
TL 10	1951234	↓	↓	↓			↓	↓
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Dup.	1951236	1	100	100				
Spike	1236	↓	↓	↓			4/8/93	CN598
Blank	Blank	↓	↓	↓			↓	↓

	Before		After		
	Color	Clarity	Color	Clarity	Notes
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
Dup.					
Spike					
Blank					H # 7

Sample Number	Spike Information						
	Sol. ID	1	2	3	4	5
QC	Lot. No.	C49E	C97A	C62B	C71E	C33B
LCS	Vol. Added	2mL	2mL	2mL	2mL	2mL
	Lot. No.					
1951236	Vol. Added	↓	↓	↓	↓	↓

6	7	8	Notes	Date	Init
				4/5/93	CN595
				↓	↓

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1386a Rev. 4/9/91

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LEACHATE DATA

Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601-5994

DATA LOGBOOK
TCLP NONVOLATILE EXTRACTION
ANALYSIS #947, 1339, 2947, 2339

Leachate Prep

Sample No./Description 1949866 / Lenox China

Started by (analyst) DAB 851 Extraction Vessel 47

Finished by (analyst) DAB 851 Matrix Type Sludge

Nonvolatile Extraction:

Preliminary Evaltation Data

pH: (5.0 g waste + 96.5 ml DI H20) = 7.53 p-1

(+ 3.5 ml 1.0 N HCl heated to 50°C) = 1.77 p-1

Initial Filtration Data

Sludge cake & filter (g) _____ Amount of sample filtered _____

Filter Wt. (g) _____ Total ml filtrate _____ % solids _____

Residue Wt. (g) _____ Total ml filtrate added to extract _____

Extraction Fluid Used 1

Weight of Residue Extracted (g) 100g B-1

Volume of Extraction Fluid (ml) 2000

Extraction Started (time/date) 4-5-93 2:25pm

Extraction Ended (time/date) 4-6-93 8:25 AM Final pH 5.06 p-1

Calculations:

25

Verified by: [signature]

Date: 4-7-93

1071 Rev. 01/25/93

PAGE: 25

Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601-5994

BATCH SHEET
TCLP NONVOLATILES

Waste type: Sludge

Batch #: 930911 | 851 | 947 |

Batches are kept open for 20 samples or 30 days, whichever comes first.

	Sample #	Formaldehyde*	Metals*	BNA*	Pest/Herb*	Date Extr. Started	
1	1948662		✓ SP	✓ SP**	✓ SP	4-1-93	
2	1949866		✓			4-5-93	
3	1949558		✓	✓ SP	✓	4-5-93	
4	1950776		✓			4-6-93	
5	1948662				✓	4-6-93	Repeat for Cr+6 + P
6	1952107		✓			4-12-93	
7	1955130		✓			4-15-93	
8	1955692		✓	✓	✓	4-19-93 4-16-93	(3) BB 8: 4-16-93
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

* Check if sample gets these parameters
** - Cr+6 not a spike - different method requested by client.
SP - sample spiked for matrix type QC

20

2215 Rev. 12/17/92

NJS 002 325 074

7E

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Karl J. Delaney
Director

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 261 028 819

CA93-AUG 25 1993

Mr. Stephen F. Lichtenstein
Lenox Inc.
Lawrenceville, N.J. 08648-2394

Dear Mr. Lichtenstein:

Re: **Lenox China - Pomona**
Galloway Township, Atlantic County
Tilton Road Pond Sludge Resampling Analytical Data

The New Jersey Department of Environmental Protection and Energy (Department) and the United States Environmental Protection Agency (EPA) have reviewed the above referenced resampling analytical data prepared by Lenox China (Lenox) and received on August 17, 1993. The Department and EPA have determined that the analytical data package is approved with the following modification:

1. As detailed in the Department's correspondence dated May 26, 1993, "All site characterization sampling must be done by TAL metals at defined locations, as the TCLP test and composite sampling are strictly used for the classification of waste prior to disposal and are not intended for site characterization". In the interim since the Department's May 26, 1993 correspondence, Lenox, EPA and the Department have resolved all of the outstanding issues regarding the revised RFI work plan. In the resolution of those issues, it was determined that Lenox will submit a chemical constituents inventory to assist the regulatory agencies in defining the analytical parameters for sampling at the Lenox facility. With this in mind, the Department and EPA wish to resolve the arsenic issue by including an analysis of total arsenic along with the other analytical parameters currently scheduled for analysis within the Tilton Road Pond for Solid Waste Management Unit #5 for the RCRA Facility Investigation.

If you have any questions, please contact me at (609) 633-1455.

Sincerely,

Frank Faranca

Frank Faranca, Project Manager
Bureau of Federal Case Management

FFF
c: Andrew Park, USEPA, Region II
Daryl Clark, NJDEPE/DPFSR/BGWPA
John Kinkela, Lenox China, Pomona Facility

NY5002 325 074 7E

State of New Jersey
Department of Environmental Protection and Energy
Division of Responsible Party Site Remediation
CN 028
Trenton, NJ 08625-0028

Karl J. Delaney
Director

CAS3 - AUG 31 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
NO. P 261 023 831

Mr. Stephen F. Lichtenstein
Lenox Inc.
Lawrenceville, N.J. 08648-2394

Dear Mr. Lichtenstein:

Re: **Lenox China - Pomona**
Lenox China - Data Validation Review of May 1993 Quarterly DGW Sampling
Galloway Township, Atlantic County

The New Jersey Department of Environmental Protection and Energy (Department) and the United States Environmental Protection Agency (EPA) have reviewed the above referenced analytical Package prepared by Lancaster Laboratories and submitted on behalf of Lenox China (Lenox) and received on August 9, 1993. The Department and EPA have reviewed the following samples according to SW-846 method requirements for the listed parameters. The data were delivered in a full deliverables format. The quality assurance review of the data is summarized below:

The following samples were reviewed for the listed parameters.

Field ID	Lab ID	Sample Date	Parameter	Matrix
MW16F	1974941	05-27-93	Metals	Aqueous
MW6F	1974946	05-27-93	Metals	Aqueous
MW15F	1974951	05-27-93	Metals	Aqueous
MW	1974928	05-27-93	VO,Metals	Aqueous
MW3	1974930	05-27-93	VO,Metals	Aqueous
MW9	1974935	05-27-93	VO,Metals	Aqueous
MW15	1974937	05-27-93	VO,Metals	Aqueous
MW73	1974548	05-27-93	Metals	Aqueous
TB	1974952	05-27-93	VO,Metals	Aqueous
FB	1974953	05-27-93	VO, Metals	Aqueous

The analytical data reported in this package are acceptable except for the following qualifications and/or rejections resulting from the noted QA/QC deficiencies. The laboratory-reported non-detected results, found to be acceptable as a result of QA evaluation, are not listed on the Target and Non-target Analyte Summary List.

General:

The data package was unbound.

Volatiles:

The samples were analyzed according to USEPA SW-846 Method 8010. Even though all 601 analytes appear in the calibration, the results for only vinyl chloride, 1,1-dichloroethene, 1,2-dichloroethene and trichloroethene are reported on the Analysis Report sheets.

The result for trans 1,2-dichloroethene in sample 1974937 was transcribed incorrectly by the laboratory. The result for this compound in the above mentioned sample is 2 ug/L instead of the non-detected result reported by the laboratory.

Metals:

The samples were analyzed and reported for iron, lead, manganese, sodium and zinc. Lead was analyzed using graphite furnace while the remaining analytes were analyzed using ICP.

Samples 1974548, 1974552 and 1974553 were analyzed and reported for lead and zinc only.

The sample spike analysis was not performed for this batch due to an insufficient amount of sample. However, a quality control sample was spiked and analyzed with acceptable % recovery results. The data for lead is qualified due to the lack of a field sample spike analysis.

The result for certain analytes are qualified due to sample spike analysis, duplicate analysis and serial dilution analyses. For details please refer to the target and non-target analyte list.

General Chemistry:

The various general chemistry analyses were acceptable.

Target and Non-target Analyte List

Sample	Method Blank Conc.	Lab Report Conc.	QAS Report Conc.	QAS Decision	Footnotes

Note: Only positive results or those that require QAS action are provided below. Please refer to the analytical data for additional information.

1974952 (TB):

Volatiles (ug/L): No target compounds detected.

Metals (ug/L):

lead	U	1.2	1.2		
zinc	4.5J	79	79		

1974953 (FB):

Volatiles (ug/L): No target compounds detected.

Metals (ug/L):

lead	U	2.2	2.2		
zinc	4.5J	80	80		

1974928:

Volatiles (ug/L): No target compounds detected.

Metals (ug/L):

iron	U	8540	8540		
lead	U	4.9J	4.9J	negate	1
manganese	1	13	13		
sodium	43J	6580	6580		
zinc	4.5J	30	30	negate	1

1974930:

Volatiles (ug/L): No target compounds detected.

Metals (ug/L):

iron	U	449	449		
lead	U	24J	24J	qualify	2,4

manganese	1	13	13		
sodium	43J	25100	25100		
zinc	4.5J	2990	2990		

1974935:

Volatiles (ug/L):	No target compounds detected.				
Metals (ug/L):					
iron	U	2040	2040		
lead	U	UJ	UJ	reject	6
manganese	1	69	69		
sodium	43J	77700	77700		
zinc	4.5J	3.6J	3.6JB	negate	5

1974937:

Volatiles (ug/L):					
trans 1,2-dichloro -ethene	U	U	2		
trichloroethene	U	16	16		
Metals (ug/L):					
iron	U	1740	1740		
lead	U	UJ	---	reject	6
manganese	1	144	144		
sodium	43J	35600	35600		
zinc	4.5J	12J	12JB	negate	5

1974941:

Metals (ug/L):					
iron	8J	15.6J	15.6JB	negate	5
lead	0.2J	2	2J	negate	1
manganese	U	130J	130J	qualify	2
sodium	U	38900	38900		
zinc	U	49	49	negate	1

1974946:

Metals (ug/L):					
iron	8J	15.2J	15.2J	negate	5
lead	0.2J	1.5	1.5J	negate	1
manganese	U	36J	36J	qualify	2

sodium	U	14300	14300		
zinc	U	23	23	negate	1

1974951:

Metals (ug/L):					
iron	8J	15.7J	15.7JB	negate	5
lead	0.2J	1.4	1.4J	negate	1
manganese	U	150J	150J	qualify	2
sodium	U	14300	14300		
zinc	U	36	36	negate	1

1974548:

Metals (ug/L):					
lead	U	49J	49J	qualify	2,4
zinc	4.5J	454	454J	qualify	3

FOOTNOTES:

1. The value reported was less than or equal to 3x the value in the field blank. Therefore, QAS negated the reported value due to the probable foreign contamination.
2. The % recovery in the sample spike analysis for this analyte is less than the control limits. Therefore, the result for this analyte in the associated sample is qualified and may be biased low.
3. The value reported is greater than three (3) times the value in the field blank and is considered "real". However, the reported value must be quantitatively qualified "J" due to the field blank contamination.
4. In the Duplicate Sample Analysis for metals, the analyte fell outside the control limits of $\pm$ 20 percent. Therefore, result for the metal was qualified.
5. The value reported was less than or equal to 3x the value in the method blank. Therefore, QAS negated the reported value due to the probable foreign laboratory contamination.
6. The % recovery in the sample spike analysis for this analyte is less than zero percent. Therefore, the non-detected result for this analyte in the associated sample is rejected.

If you have any questions, please contact me at (609) 633-1455.

Sincerely,

Frank Faranca

Frank Faranca, Project Manager
Bureau of Federal Case Management

FFF

c: Andrew Park, USEPA, Region II
Daryl Clark, NJDEPE/DPFSR/BGWPA
John Kinkela, Lenox China, Pomona Facility